MEDICAL SOCIETY OF THE STATE OF NORTH CAROLINA

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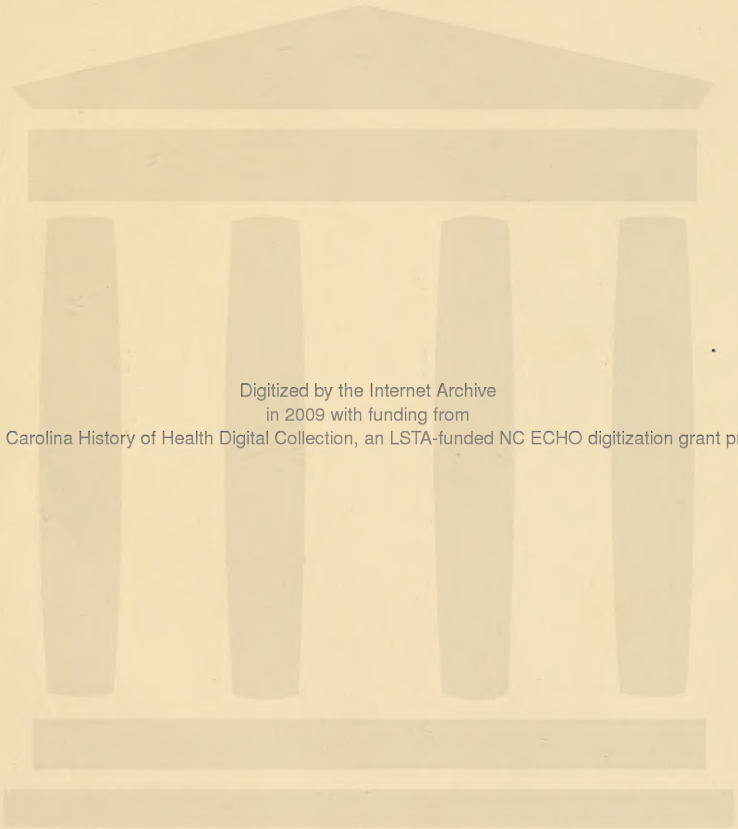

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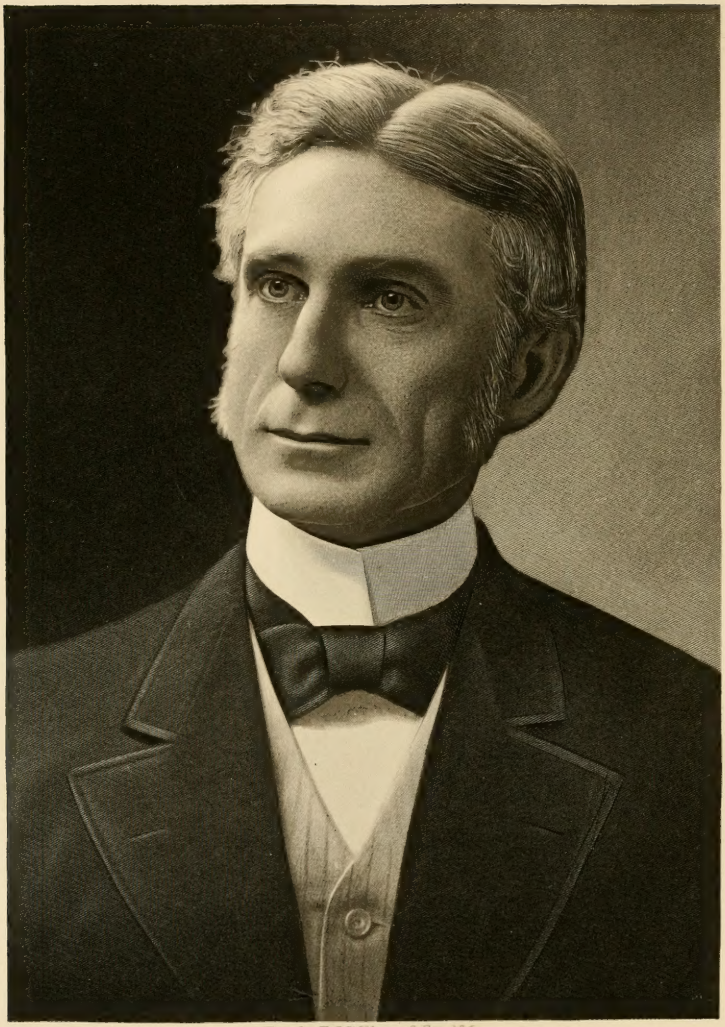

Eng. by E. G. Williams & Bro. N.Y.

Yours very truly,

Edwd. Register.

TRANSACTIONS

OF THE

MEDICAL SOCIETY

OF THE

STATE OF NORTH CAROLINA.

FIFTY-THIRD ANNUAL MEETING

HELD AT

Charlotte, N. C., May 29, 30 and 31, 1906.

PRESIDENT, DR. EDWARD C. REGISTER, CHARLOTTE, N. C.
SECRETARY, DR. J. HOWELL WAY, WAYNESVILLE, N. C.

(Edited for the Society by J. Howell Way, Waynesville, N. C.)

RALEIGH:
EDWARDS & BROUGHTON PRINTING COMPANY.
1906

Publication Committee.*

Dr. D. A. Stanton ..... High Point.
Dr. W. A. Graham ..... Durham.
Dr. T. M. Jordan ..... Raleigh.

"It is to be understood that the Society is not to be considered as endorsing all the views and opinions of authors of papers published in the transactions of the Society."—*Extract from By-Laws, chap. 10, sec. 8.*

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*The volume of Transactions of the 1906 session at Charlotte was prepared and issued under the editorial supervision of the Secretary of that meeting.

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ROSTER OF OFFICERS OF THE MEDICAL SOCIETY OF THE STATE OF NORTH CAROLINA FROM ORGANIZATION TO 1906.

	Date.	Place.	Members in Attendance.	President.	Vice-Presidents.	Secretary.	Treasurer.	Members on Roll.*	Honorary Members.*	Honorary Fellows.*
	1849	Raleigh	25	F. J. Hill		W. H McKee		25		
1	1850	Raleigh	21	Edmund Strudwick	F. J. Haywood, C. E. Johnson. J E. Williamson, W G. Thomas	W. H. McKee	W. G. Hill	38	9	
2	1851	Raleigh	23	Edmund Strudwick	C. E. Johnson	W.H. McKee	W G. Hill	46	9	
3	1852	Wilmington	38	J. E. Williamson	Thomas N. Cameron, William G Hill, Johnston B. Jones, N. J. Pittman.	E. B. Haywood	J. J. W. Tucker	72	12	
4	1853	Fayetteville	24	J. E. Williamson	W. G. Hill, Johnston B. Jones, J. B. G. Myers, N J. Pittman	W. W. Harris	Daniel Dupree	80	14	
5	1854	Raleigh	34	J. H. Dickson	N. J. Pittman, J. G. B. Myers, J. Graham Tull, A. D. McLean.	S. S. Satchwell	Daniel Dupree	84	17	
6	1855	Salisbury	23	J. H. Dickson	J. Graham Tull, Owen Hadley, A. D. McLean, Hugh Kelly.	S. S Satchwell	J. B. Dunn	96	18	
7	1856	Raleigh	37	C. E Johnson	Marcellus Whitehead, E. R Gibson, Johnston B. Jones, O. F. Manson.	S. S. Satchwell	J. B. Dunn	101	22	
8	1857	Edenton	35	C. E. Johnson	Marcellus Whitehead, O. F. Manson, H. W. Faison, E. T. Gibson.	W. G. Thomas	J. B. Dunn	113	16	
9	1858	New Bern	69	W. H. McKee	Edward Warren. C.W. Graham, Caleb Winslow, A. B. Pierce.	W. G. Thomas	J B Dunn	172	18	
10	1859	Statesville	81	W. H. McKee	James G. Ramsay, P. E. Hines, J. R. Mercer, W. T. Howard.	W. G. Thomas	C. W. Graham			
11	1860	Washington	64	N. J. Pittman	P. T. Henry, R H. Winborne, M. Whitehead, T. S Leach	W. G. Thomas	C. W Graham	233	18	
12	1861	Morganton	23	N. J. Pittman	J. J. Summerell, C. T. Murphy, G. W. Hodges, W. A. B. Norcom	W. G. Thomas	C W. Graham	244	18	
13	1866	Raleigh	20	J. J. Summerell		W. G Thomas	C W. Graham			
14	1867	Tarboro	41	W. G. Thomas	E Burke Haywood, R. H Winborne, W. L. Barrow, J W. Jones.	S. S. Satchwell	C. W. Graham	228	11	
15	1868	Warrenton	27	S. S. Satchwell	Hugh Kelly, George E Foote, Charles J. O'Hagan, J. H. Baker.	Thomas F. Wood	J. W. Jones			
16	1869	Salisbury	36	E. Burke Haywood	Thomas E Wilson, A B Pierce, C.T. Murphy, M. A. Locke.	Thomas F. Wood	J. W. Jones			
17	1870	Wilmington	38	C J. O'Hagan	E. A. Anderson, F. N. Luckey, W. R. Sharpe, R. L. Payne.	Thomas F. Wood	J. W. Jones			

* Missing data not to be found in records.

18	1871	Raleigh	35	Hugh Kelly	D. N. Patterson, R. C. Pearson, J B. Seavy, G. L. Kirby.	Thomas F. Wood	J. W. Jones				
19	1872	New Bern	34	W. G. Hill	H. W. Faison R. I Hicks, G. H. Macon, W. A B. Norcom.	James McKee	J W. Jones				
20	1873	Statesville	43	M. Whitehead	W. T Ennett, William Little, Charles Duffy, T P German.	James McKee	H. T. Bahnson				
21	1874	Charlotte	56	W. A. B. Norcom	J. B. Jones, R. F. Lewis, C. G. Cox, J. L. Knight.	James McKee	H. T. Bahnson	126	5		
22	1875	Wilson	60	J. W. Jones	Walter Debnam, J. A Gibson, Wm. Little, D. N Patterson.	James McKee	H T. Bahnson	148	5		
23	1876	Fayetteville	33	Peter E. Hines	Joseph H. Baker, G G. Smith, T. D. Haigh, J. K. Hall.	James McKee	H. T. Bahnson	157	4		
24	1877	Salem	42	George A. Foote	J. K Hall, B.W. Robinson, A. Holmes, A. A. Hill.	James McKee	A. G. Carr	177	4		
25	1878	Goldsboro	79	R. L. Payne	E. M. Rountree, Richard Anderson, S. B Flowers, L. A. Stith.	L. J. Picot	A. G. Carr	194	6		
26	1879	Greensboro	109	Charles Duffy, Jr.	J A Gibson, Willis Allston, James McKee, A A. Hill.	L. J. Picot	A. G Carr	198	6		
27	1880	Wilmington	105	J. F. Shaffner	J. K. Hall, W. C. McDuffie, W. R. Wilson, R. F. Lewis,	L. J Picot	A. G. Carr	225	6		
28	1881	Asheville	92	R B. Haywood	J. A. McRee, W. H. Lilly, R H Speight, W. J. H. Bellamy.	L. J Picot	A. G. Carr	254	6		
29	1882	Concord	65	Thomas F. Wood	T. J. Moore, D. J Cain, S. E. Evans, John McDonald.	L. J. Picot	A. G. Carr	297	7		
30	1883	Tarboro	112	J. K. Hall	A. W. Knox, J. M. Hadley, E. S. Foster, John Whitehead.	L. J. Picot	A. G. Carr	310	7		
31	1884	Raleigh	110	A. B. Pierce	F. W. Potter, G. W Graham, R. Dillard, G. W Long	L. J. Picot	A. G. Carr	348	7		
32	1885	Durham	173	W. C. McDuffie	James McKee, T. E. Anderson, W. H. Whitehead A. G Carr	W. C Murphy	R. L. Payne, Jr.	424	6		
33	1886	New Bern	113	Joseph Graham	H. T. Bahnson, L. J. Picot, J. L. McMillan, W. W. Faison.	J. M. Baker	R. L. Payne, Jr.	438	7		
34	1887	Charlotte	112	H. T. Bahnson	G. G. Smith, J. L. Nicholson, C. M Poole, H. B. Ferguson.	J. M. Baker	R. L. Payne, Jr.	452	7		
35	1888	Fayetteville	133	T. D Haigh	W. P. Ennett, J. A. Dunn, T E. Anderson.	J. M. Baker	C M. Poole	396	6		
36	1889	Elizabeth City	50	W T. Ennett	W J. Jones, S. W. Stevenson, G. W. Long	J. M. Baker	C. M Poole	410	6		
37	1890	Oxford	160	G. G. Thomas	R. L. Payne, Jr., Richard Dillard, S. W. Booth.	J. M. Hays	C. M Poole	414	6		
38	1891	Asheville	135	R. H. Lewis	S. W. Battle, J L. Nicholson, W. H. Lilly.	J. M Hays	C. M Poole	422	6		
39	1892	Wilmington	162	W. T. Cheatham	T S. Burbank, J. W. Long, W. H. H. Cobb, W. D. Hilliard.	J. M. Hays	C. M. Poole	431	6		
40	1893	Raleigh	221	J. W. McNeill	W. C. Galloway, H H. Harris, J. M. Hadley, Thomas Hill.	R. D. Jewett	M. P. Perry	447	6	3	

* Missing data not to be found in records.

ROSTER OF NORTH CAROLINA MEDICAL SOCIETY—CONTINUED.

	Date.	Place	Members in Attendance.*	President.	Vice-Presidents	Secretary	Treasurer.	Members on Roll.*	Honorary Members.*	Honorary Fellows.*
41	1894	Greensboro	166	W. H. H. Cobb	J. A. Hodges, R. W. Tate, Willis Alston, M. H. Fletcher.	R. D. Jewett	M. P. Perry	454	5	3
42	1895	Goldsboro		J. H. Tucker	J. Howell Way, W. H. Harrell, O McMullan, C A. Misenheimer.	R. D. Jewett	M. P. Perry	436	7	3
43	1896	Winston-Salem	158	R L. Payne	S. D Booth, J. P. Monroe, J. A. Burroughs, J. E Grimsley.	R. D. Jewett	M. P Perry	452	7	3
44	1897	Morehead City	103	P. L. Murphy	J C.Walton, A. A. Kent, M. R. Adams, B L. Long.	R. D. Jewett	M. P. Perry	406	6	3
45	1898	Charlotte		Francis Duffy	E. C. Register, A. T. Cotton, J. B. H. Knight, F. H Russell.	R. D. Jewett	M. P. Perry	437	6	21
46	1899	Asheville	152	L. J. Picott	I. W. Faison, J. W. White, H. H Dodson, W. C. Brownson.	George W Pressly	G. T. Sikes	489	6	16
47	1900	Tarboro	115	George W. Long	C. M. Poole, Jas M. Parrott, T. B. Williams, W. D. Hilliard.	George W. Pressly	G. T. Sikes	482	6	21
48	1901	Durham	186	Julian M. Baker	M. H. Fletcher, C. A. Julian, D. A. Stanton, E. M. Summerell.	George W. Pressly	G. T. Sikes	515	5	18
49	1902	Wilmington	147	Robert S. Young	A. G. Carr, E. D. Dixon Carroll, I. M Taylor, J. M. Parrott.	George W. Pressly	G. T. Sikes	546	5	20
50	1903	Hot Springs	155	A. W. Knox	E. G. Moore, C. A. Julian, W. W. McKenzie, J. L. Nicholson.	J. Howell Way	G. T. Sikes	530	6	19
51	1904	Raleigh	326	H. B. Weaver	Jno. Hey Williams, John C. Rodman, S. F. Pfohl.	J Howell Way	G. T. Sikes	1,033	8	17
52	1905	Greensboro	361	David T. Tayloe	C. A Julian, John T. Burrus, I. W. Faison.	J. Howell Way	G. T. Sikes	1,175	8	17
53	1906	Charlotte	406	Edward C. Register	L B. McBrayer, W. H. Cobb, Jr., W. O. Spencer.	J. Howell Way	G. T. Sikes	1,234	8	16

* Missing data not to be found in records.

PAST MEMBERS BOARD OF MEDICAL EXAMINERS OF THE STATE OF NORTH CAROLINA.

Name and Post-office.	Date.
*JAMES H. DICKSON, Wilmington	1859-1866
*Charles E. Johnson, Raleigh	1859-1866
*Caleb Winslow, Hertford	1859-1866
*Otis F. Manson, Townsville	1859-1866
*William H McKee, Raleigh	1859-1866
*Christopher Happoldt, Morganton	1859-1866
*J. Graham Tull, New Bern	1859 1866
*SAMUEL T. IREDELL, Secretary	1859-1866
*N. J PITTMAN, Tarboro	1866-1872
*E. Burke Haywood, Raleigh	1866-1872
*R. H. Winborne, Edenton	1866-1872
*S. S. Satchwell, Rocky Point	1866-1872
*J. J Summerell, Salisbury	1866-1872
*R B. Haywood Raleigh	1866-1872
*M Whitehead, Salisbury	1866-1868
J. F. Shaffner, Salem	1868-1872
*WILLIAM LITTLE, Secretary	1866-1872
*CHARLES J. O'HAGAN, Greenville	1872-1879
*W. A. B. Norcom, Edenton	1872-1878
*C. Tate Murphy	1872-1878
*George A. Foote, Warrenton	1872-1878
*J. W. Jones, Tarboro	1872-1878
R. L. Payne, Lexington	1872-1878
CHARLES DUFFY, JR., New Bern	1872-1878
P. E. HINES, Raleigh	1878-1884
T D Haigh, Fayetteville	1878-1884
R I. Hicks, Williamsboro	1878-1880
*George L. Kirby, Goldsboro	1878-1884
*Thomas F. Wood, Wilmington	1878-1884
Joseph Graham, Charlotte	1878-1884
H. T BAHNSON, Salem	1878-1884
R H. Lewis, Raleigh	1880-1884
*WILLIAM R WOOD, Scotland Neck	1884-1890
A. W. Knox, Raleigh	1884-1890
Francis Duffy, New Bern	1884-1890
P. L. Murphy, Morganton	1884-1890
Willis Alston, Littleton	1884-1890
W. J. H. BELLAMY, Wilmington	1884-1890
J. A Reagan, Weaverville	1884-1890
B L. Payne, Jr., Norfolk, Va.	1890-1892
George W. Purefoy, Asheville	1890-1892
George G Thomas Wilmington	1890-1894
Robert S. Young, Concord	1890-1894
George W. Long, Graham	1890-1896
W. H. WHITEHEAD, Rocky Mount	1890-1896
L J. PICOT, Littleton	1890-1896
JULIAN M. BAKER, Tarboro	1892-1898
H. B. Weaver, Asheville	1892-1898
†T. S. Burbank, Wilmington	1894-1898
*J. M. Hays, Greensboro	1894-1897
D. T. TAYLOE, Washington	1896-1902
†R. H. Whitehead, Chapel Hill	1896-1897
THOMAS E. ANDERSON, Statesville	1896-1902
Kemp P. Battle, Raleigh	1897-1900
J. HOWELL WAY, Waynesville	1897-1902
W. H. H. Cobb, Goldsboro	1898-1900
Albert Anderson, Wilson	1898-1902
E. C REGISTER, Charlotte	1898-1902
Thomas S. McMullan, Hertford	1900-1902
John C Walton, Chase City, Va.	1900-1902
†George W. Pressly, Charlotte	1902-1906

* Deceased. † Resigned.

NOTE.—The names of members who served as President appear in CAPS; of those who served as Secretary in SMALL CAPS.

BOARD OF MEDICAL EXAMINERS, 1902—1908.

A. A. KENT, President, Lenoir, Practice of Medicine.
G. T. SIKES, Secretary, Grissom, Chemistry and Pharmacy. Appointed in 1906, vice Dr. Pressly resigned.
CHARLES O'H. LAUGHINGHOUSE, Greenville, Obstetrics and Gynæcology.
M. H. FLETCHER, Asheville, Physiology and Hygiene.
JAMES M PARROTT, Kinston, Anatomy and Histology.
J. T. J. BATTLE, Greensboro, Materia Medica and Therapeutics.
FRANK H. RUSSELL, Wilmington, Surgery.

ROSTER OF MEMBERS NORTH CAROLINA STATE BOARD OF HEALTH FROM ORGANIZATION IN 1877 TO 1906.

Name.	Address.	Appointed by	Term.
S. S. Satchwell, M. D., President	Rocky Point	State Society	1877 to 1878
Thos. F. Wood, M. D., Secretary	Wilmington	State Society	1877 to 1878
Joseph Graham, M. D.	Charlotte	State Society	1877 to 1878
Chas. Duffy, Jr., M. D.	New Bern	State Society	1877 to 1878
Peter E. Hines, M. D.	Raleigh	State Society	1877 to 1878
Geo. A. Foote, M. D.	Warrenton	State Society	1877 to 1878
S. S. Satchwell, M. D., Pres.	Rocky Point	State Society	1878 to 1884
Thos. F. Wood, M. D., Sec.	Wilmington	State Society	1878 to 1884
Chas. J. O'Hagan, M. D., Pres.	Greenville	State Society	1878 to 1882
Geo. A. Foote, M. D.	Warrenton	State Society	1878 to 1882
Marcellus Whitehead, M. D.	Salisbury	State Society	1878 to 1880
R. L. Payne, M. D.	Lexington	State Society	1878 to 1880
H. G. Woodfin, M. D.	Franklin	Gov Z. B. Vance	1878 to 1880
A. R. Ledeux, Chemist	Chapel Hill	Gov. Z. B. Vance	1878 to 1880
Wm. Cain, Civil Engineer	Charlotte	Gov. Z. B. Vance	1878 to 1880
R. L. Payne, M. D.	Lexington	State Society	1881 to 1887
Marcel. Whitehead, M. D. Pres.	Salisbury	State Society	1881 to 1884
J. M. Lyle, M. D.	Franklin	Gov. T. J. Jarvis	1881 to 1883
Wm. Cain, Civil Engineer	Charlotte	Gov T. J. Jarvis	1881 to 1883
W. G. Simmons, Chemist	Wake Forest	Gov. T. J. Jarvis	1881 to 1883
J. W. Jones, M. D., Pres.	Wake Forest	State Society	1883 to 1889
John McDonald, M. D.	Washington	State Society	1883 to 1889
S. H. Lyle, M. D.	Franklin	Gov. T. J. Jarvis	1883 to 1885
W. G. Simmons, Chemist	Wake Forest	Gov. T. J. Jarvis	1883 to 1885
Arthur Winslow, Civil Engineer	Raleigh	Gov T. J. Jarvis	1883 to 1885
R. H. Lewis, M. D.	Raleigh	State Board	1884 to 1883
Thos. F. Wood M. D., Sec.	Wilmington	State Society	1885 to 1897
Wm. D. Hilliard, M. D.	Asheville	State Society	1885 to 1891
Arthur Winslow, Civil Engineer	Raleigh	Gov. A. M. Scales	1885 to 1881
W. G. Simmons, Chemist	Wake Forest	Gov. A. M. Scales	1885 to 1887
J. H. Tucker, M. D.	Henderson	Gov. A. M. Scales	1885 to 1887
R. H. Lewis, M. D., Sec.	Raleigh	State Society	1887 to 1897
H. T. Bahnson, M. D., Pres.	Winston-Salem	State Society	1887 to 1893
Arthur Winslow, Civil Engineer	Raleigh	Gov A. M Scales	1887 to 1888
W. G. Simmons, Chemist	Wake Forest	Gov. A. M. Scales	1887 to 1889
J. H. Tucker, M. D.	Henderson	Gov. A. M. Scales	1887 to 1889
J. L. Ludlow, Civil Engineer	Winston	Gov. A. M. Scales	1888 to 1881
J. H. Tucker, M. D.	Henderson	Gov. D. G Fowle	1889 to 1891
F. P. Venable, Ph. D., Chemist	Chapel Hill	Gov. D. G. Fowle	1889 to 1891
J. L. Ludlow, Civil Engineer	Winston	Gov. D G. Fowle	1889 to 1893
J. A. Hodges, M. D.	Fayetteville	State Society	1889 to 1892
J. M. Baker, M. D.	Tarboro	State Society	1889 to 1893
J. H. Tucker, M. D.	Henderson	Gov Thos. M. Holt	1891 to 1893
F. P. Venable, Ph. D, Chemist	Chapel Hill	Gov. Thos. M. Holt	1891 to 1893
J. L. Ludlow, Civil Engineer	Winston	Gov. Thos. M. Holt	1891 to 1892
*Thos. F. Wood, M. D., Sec.	Wilmington	State Society	1891 to 1897
Geo. G. Thomas, M. D., Pres.	Wilmington	State Board Health	1892 to 1897
S. Westray Battle, M. D.	Asheville	State Society	1891 to 1895
W. H. Harrell, M. D.	Williamston	State Society	1892 to 1895
John Whitehead M. D.	Salisbury	State Board Health	1893 to 1895
W. H. G. Lucas, M. D.	White Hall	Gov. Elias Carr	1893 to 1895
F. P. Venable, Ph. D, Chemist	Chapel Hill	Gov. Elias Carr	1893 to 1895
John C. Chase, Civil Engineer	Wilmington	Gov. Elias Carr	1893 to 1895
R. H. Lewis, M. D., Sec.	Raleigh	Gov. Elias Carr	1893 to 1895
W. P. Beall, M. D.	Greensboro	Gov. Elias Carr	1894 to 1897
John Whitehead, M. D.	Salisbury	State Society	1895 to 1897
W. H. Harrell, M. D.	Williamston	State Society	1895 to 1897
W. P. Beall, M. D.	Greensboro	Gov. Elias Carr	1895 to 1897
W. J. Lumsden M. D.	Elizabeth City	Gov. Elias Carr	1885 to 1897
R. H. Lewis, M. D., Sec.	Raleigh	Gov. Elias Carr	1885 to 1897
F. P. Venable, Ph. D. Chemist	Chapel Hill	Gov. Elias Carr	1895 to 1897
John C. Chase, Civil Engineer	Wilmington	Gov. Elias Carr	1895 to 1897
C. J. O'Hagan, M. D.	Greenville	Gov. D. L. Russell	1897 to 1899
John D. Spicer, M. D.	Goldsboro	Gov. D. L. Russell	1897 to 1899
J. L. Nicholson, M. D.	Richlands	Gov. D. L. Russell	1897 to 1899
R. H. Lewis, M. D., Sec	Raleigh	Gov. D. L. Russell	1897 to 1899
A. W. Shaffer, Sanitary Engineer	Raleigh	Gov. D. L. Russell	1897 to 1899
Chas J. O'Hagan, M. D.	Greenville	Gov. D L. Russell	1899 to 1901
J L. Nicholson, M. D.	Richlands	Gov. D L. Russell	1899 to 1901
Albert Anderson, M. D.	Wilson	Gov. D. L. Russell	1899 to 1901
R. H. Lewis, M. D. Sec	Raleigh	Gov. D. L. Russell	1899 to 1901
A. W. Shaffer, Civil Engineer	Raleigh	Gov. D L. Russell	1899 to 1901
Geo. G Thomas, M. D., Pres.	Wilmington	State Society	1899 to 1901
S. Westray Battle, M. D.	Asheville	State Society	1899 to 1901
H. W. Lewis, M. D.	Jackson	State Society	1899 to 1901
H. H. Dodson, M. D.	Milton	State Society	1899 to 1901
R. H. Lewis, M. D., Sec.	Raleigh	Gov. C. B. Aycock	1901 to 1907
W. P. Ivey, M. D.	Lenoir	Gov. C. B. Aycock	1901 to 1907
Geo. G. Thomas, M. D., Pres.	Wilmington	Gov. C. B. Aycock	1901 to 1905
Francis Duffy, M. D.	New Bern	Gov. C. B. Aycock	1901 to 1905
J. L. Ludlow, Civil Engineer	Winston	Gov C. B. Aycock	1901 to 1903
S. Westray Battle, M. D.	Asheville	State Society	1901 to 1907
H. W. Lewis, M. D.	Northampton	State Society	1901 to 1907
W. H. Whitehead, M. D.	Rocky Mount	State Society	1901 to 1905
J. L. Nicholson, M. D.	Richlands	State Society	1901 to 1905
J. L. Ludlow, Civil Engineer	Winston	Gov. C. B Aycock	1903 to 1909
J. Howell Way, M. D.	Waynesville	Gov. R. B Glenn	1905 to 1911
W. C. Spencer, M. D.	Winston	Gov. R. B. Glenn	1905 to 1911
Geo. G. Thomas, M. D., Pres.	Wilmington	State Society	1905 to 1911
Thos. E. Anderson, M. D.	Statesville	State Society	1905 to 1911

* Died in 1892, leaving a five-year unexpired term, which was filled by Board.

Officers and Committees—1906.

President—Dr. EDWARD C. REGISTER ..... Charlotte
First Vice-President—Dr. L. B. McBRAYER ..... Asheville
Second Vice-President—Dr. W. H. COBB, Jr. ..... Goldsboro
Third Vice-President—Dr. W. O. SPENCER ..... Winston
Secretary—Dr. J. HOWELL WAY ..... Waynesville
Treasurer—Dr. GINNADA T. SIKES ..... Grissom

Council.*

First District—Dr. Oscar McMullan, Elizabeth City.
Second District—Dr. James M. Parrott, Kinston.
Third District—Dr. Frank H. Russell, Wilmington.
Fourth District—Dr. Albert Anderson, Wilson.
Fifth District—Dr. Jacob F. Highsmith, Fayetteville.
Sixth District—Dr. Hubert A. Royster, Raleigh (Secretary).
Seventh District—Dr. Edward C. Register, Charlotte (President).
Eighth District—Dr. David A. Stanton, High Point.
Ninth District—Dr. Thos. E. Anderson, Statesville.
Tenth District—Dr. James A. Burroughs, Asheville.

Orator—Dr. James M. Parrott, Kinston.
Essayist—Dr. Thos. S. McMullan, Hertford.
Leader of Debate—Dr. Samuel D. Booth, Oxford.

†*Members House of Delegates American Medical Association*—Dr. J. Howell Way, Waynesville; Dr. James A. Burroughs, Asheville.

Committee on Public Policy and Legislation—Drs. R. H. Lewis, Raleigh; Geo. G. Thomas, Wilmington; P. L. Murphy, Morganton; (ex-officio) Edward C. Register, Charlotte; J. Howell Way, Waynesville.

Committee on Publication—Drs. Geo. W. Pressly, Charlotte; H. McKee Tucker, Raleigh; (ex-officio) J. Howell Way, Waynesville.

Committee on Finance—Drs. D. A. Stanton, High Point; C. J. Sawyer, Windsor; S. P. J. Lee, Dunn.

Committee on Scientific Work—Drs. R. H. Whitehead, Chapel Hill; O. C. Daniels, Oriental; (ex-officio) J. Howell Way, Waynesville.

Committee on Obituaries—Drs. C. M. Poole, Craven; H. H. Harris, Wake Forest; Kemp. P. Battle, Jr., Raleigh.

Local Member Committee of Arrangements for Session in Charlotte, 1906—Dr. Robert L. Gibbon, Charlotte.

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* Members terms expire at 1907 session elected in 1904 for three years.
† Members terms expire at 1907 session—elected in 1905 for two years.

Officers and Committees—1907.

President—Dr. SAMUEL D. BOOTH.....Oxford
First Vice-President—Dr. CHAS. M. STRONG.....Charlotte
Second Vice-President—Dr. J. E. McLAUGHLIN.....Statesville
Third Vice-President—Dr. W. F. HARGRAVE.....Kinston
Secretary—Dr. DAVID A. STANTON.....High Point
Treasurer—Dr. H. McKEE TUCKER.....Raleigh

Council.

First District—Dr. Oscar McMullan, Elizabeth City.
Second District—Dr. James M. Parrott, Kinston.
Third District—Dr. Frank H. Russell, Wilmington.
Fourth District—Dr. Albert Anderson, Wilson.
Fifth District—Dr. Jacob F. Highsmith, Fayetteville.
Sixth District—Dr. Hubert A. Royster, Raleigh, Secretary.
Seventh District—Dr. Edward C. Register, Charlotte, President.
Eighth District—Dr. J. B. Smith, Pilot Mountain.
Ninth District—Dr. Thos. E. Anderson, Statesville.
Tenth District—Dr. James A. Burroughs, Asheville.

Orator—Dr. L. B. McBrayer, Asheville.
Essayist—Dr. E. T. Dickenson, Wilson.
Leader of Debate—Dr. C. B. Mosely, North Wilkesboro.

Members House of Delegates American Medical Association—Dr. W. J. Lumsden, Elizabeth City; Dr. James M. Templeton, Cary.

Committee on Public Policy and Legislation—Dr. R. H. Lewis, Raleigh; Dr. David T. Tayloe, Washington; Dr. J. E. Brooks, Greensboro; Dr. Geo. G. Thomas, Wilmington. *Ex-Officio,* Drs. S. D. Booth, Oxford, and David A. Stanton, High Point.

Committee on Publication—Dr. David A. Stanton, High Point, *ex-officio;* Dr. T. M. Jordan, Raleigh; Dr. Wm. A. Graham, Durham.

Committee on Scientific Work—Dr. Wm. DeB. MacNider, Chapel Hill; Dr. H. S. Munroe, Davidson; Dr. David A. Stanton, High Point, *ex-officio.*

Committee on Finance—Dr. J. T. J. Battle, High Point; Dr. Frank Duffy, New Bern; Dr. J. H. Marsh, Fayetteville.

Committee on Obituaries—Dr. R. D. Jewett, Winston; Dr. A. S. Pendleton, Henderson; Dr. F. H. Holmes, Clinton.

Local Member Committee of Arrangements for 1907 Session—Dr. W. E. Headen, Morehead City.

Committee to Represent North Carolina at the International Congress on Tuberculosis—Drs. R. H. Lewis, Chairman, Raleigh; A. W. Knox, Raleigh; Ben. K. Hays, Oxford; Chas. O'H. Laughinghouse, Greenville; J. Howell Way, Waynesville; Jas. A. Burroughs, Asheville; J. Roy Williams, Greensboro; William M. Jones, High Point; Chas. A. Julian, Thomasville; A. A. Kent, Lenoir.

Council on Medical Education—Drs. Thomas S. McMullin, Hertford; T. L. Booth, Oxford; Charles Roberson, Greensboro.

Member National Legislative Council—Dr. J. Howell Way, Waynesville.

Chairmen of Sections, Session 1907.

Anatomy and Surgery—Dr. L. A. Crowell, Lincolnton.
Materia Medica and Therapeutics—Dr. C. G. McManaway, Charlotte.
Practice of Medicine—Dr. J. B. H. Knight, Williamston.
Physiology and Chemistry—Dr. J. E. Nobles, Greenville.
Obstetrics—Dr. R. DuVal Jones, New Bern.
Gynaecology—Dr. J. R. Browning, Littleton.
Medical Jurisprudence and State Medicine—Dr. Goode Cheatham, Brevard.
Pathology and Microscopy—Dr. E. W. Phifer, Morganton.
Railway Surgery—Dr. W. E. Headen, Morehead City.
Paediatrics—Dr. O. W. Holloway, Northside.

Delegates to Mississippi Valley Medical Association—Dr. J. Howell Way, Waynesville; Dr. David A. Stanton, High Point; Dr. J. E. Stokes, Salisbury; Dr. Robt. S. Young, Concord; Dr. W. A. Monroe, Sanford; Dr. W. C. Steel, Mount Olive.

Delegates to Virginia Medical Society—Dr. Albert Anderson, Wilson; Dr. H. A. Royster, Raleigh; Dr. H. H. Dodson, Greensboro; Dr. H. F. Long, Statesville; Dr. Isaac M. Taylor, Morganton.

Delegates to South Carolina Medical Association—Dr. Edward C. Register, Charlotte; Dr. D. M. Prince, Laurinburg; Dr. R. B. Hunter, Kings Mountain; Dr. J. M. Faison, Mount Olive; Dr. D. W. Bullock, Wilmington.

Medical Members State Board of Examiners for Nurses—Dr. John G. Blount, Washington; Dr. J. E. Ashcraft, Monroe.

Board of Medical Examiners, 1902-'08—A. A. Kent, President, Lenoir, Practice of Medicine; Charles O'H. Laughinghouse, Greenville, Obstetrics and Gynæcology; G. T. Sikes, Grissom, Secretary, Chemistry and Pharmacy; M. H. Fletcher, Asheville, Physiology and Hygiene; James M. Parrott, Kinston, Anatomy and Histology; J. T. J. Battle, Greensboro, Materia Medica and Therapeutics; Frank H. Russell, Wilmington, Surgery.

The North Carolina State Board of Health—Geo. G. Thomas, M.D., President, Wilmington; S. Westray Battle, M.D., Asheville; Henry W. Lewis, M.D., Jackson; Thos. E. Anderson, M.D., Statesville; W. P. Ivey, M.D., Lenoir; J. Howell Way, M.D., Waynesville; W. O. Spencer, M.D., Winston-Salem; J. L. Ludlow, C. E. Winston-Salem; Richard H. Lewis, M.D., Secretary and Treasurer, Raleigh.

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* The fifty-fourth regular annual session of the Medical Society of the State of North Carolina will be held in Morehead City, N. C., May 28, 29 and 30, 1907. The cordial co-operation of the officers and members of all component county societies is invited to assist in making the occasion a success.

Medical Society of the State of North Carolina.

Fifty-Third Annual Meeting, Charlotte, N. C., May 29.

Advance Programme, Session 1906.

Society called to order at 9:30 a. m. in Civil Court Room, county court-house, by Dr. Robt. L. Gibbon, Chairman of Committee.

Invocation ..... Rev. M. D. Hardin

Address of Welcome ..... Mayor S. S. McNinch

Address of Welcome ..... Hon. T. G. Guthrie

Response to Address of Welcome ..... Dr. Wm. A. Graham, Durham

The President's Annual Address—The Importance of Establishing a Higher Standard of Preliminary Education for Students of Medicine ..... Dr. Edward C. Register, President, Charlotte

Practice of Medicine ..... Chairman Dr. E. C. Boyette, Mt. Holly

1. "Colony" Treatment of the Insane and Other Defectives, Dr. P. L. Murphy, Morganton.
2. The Psychology of Inebriety, Dr. S. M. Crowell, Charlotte.
3. Some Points in Clinical Psychiatry of Interest to the General Practitioner, Dr. I. M. Taylor, Morganton.
4. Incidental Observations on Hydrophobia, Dr. Davis Furman, Greenville, S. C.
5. Acute Articular Rheumatism, Dr. E. C. Boyette, Mount Holly.
6. Treatment of Acute Articular Rheumatism, Dr. W. H. Anderson, Wilson.
7. Rheumatism, Dr. Fred. K. Cooke, Louisburg.
8. Sunstroke, Dr. B. M. Haynes, Cliffside.
9. Some of the Duties and Requirements of Country Practice, Dr. A. S. Pendleton, Henderson.
10. The Treatment of Goitre, Dr. Annie L. Alexander, Charlotte.

TUESDAY AFTERNOON, MAY 29.

The House of Delegates will be called to order at 3:15 p. m., in the Criminal Court Room, county court-house.

The General Meeting of the Society resumed at 3 p. m. in the Civil Court Room.

11. Pneumonia, Dr. J. B. H. Knight, Williamston.
12. Observations on Pneumonia, Dr. T. E. Asbury, Asbury.
13. Pneumonia as Seen in North Carolina Practice, Dr. T. C. Bullock, Autryville.
14. Broncho-Pneumonia Complicating Measles, Dr. J. G. Busby, Spencer.
15. Treatment of Pneumonia, Dr. Lloyd P. Russell, Fletchers.
16. Therapeutic Nihilism and Pneumonia, Dr. N. P. Coppedge,, Margarettsville.

17. The Relations Existing Between the Upper Air-Passages and the Lungs. Dr. R. V. Brawley, Salisbury.
18. Personal Observations on Typhoid Fever, Dr. B. R. Hunter, Kings Mountain.
19. Typhoid Fever as Seen in Graham County, Dr. S. F. Howell, Robbinsville.
20. Treatment of Typhoid Fever, Dr. J. M. Matthews, Mt. Pleasant.
21. The Best Methods to Limit the Spread of Typhoid Fever, Dr. W. P. Horton, North Wilkesboro.
22. Mitral Insufficiency, Dr. O. L. Ray, Raleigh.
23. Malarial Fever, Dr. J. M. Newbern, Jarvisburg.
24. Malaria as Seen in Gaston County, Dr. T. C. Quickel, Stanley Creek.
25. Dysentery, Dr. T. M. Riddick, Woodville.
26. Dysentery, Causes and Management, Dr. J. H. Peeler, Granite Quarry.
27. Intestinal Indigestion, Its Rational Treatment, Dr. J. E. Ashcraft, Monroe.
28. The Test Diet in Intestinal Disease, Dr. W. O. Nisbet, Charlotte.
29. Epidemic Jaundice, Dr. J. B. Wright, Granite Falls.
30. Nephritis, Dr. Ben. K. Hays, Oxford.
31. Albuminuria in Diagnosis, Dr. D. M. Prince, Laurinburg.
32. Suggestions as to Diet in Nephritis, Dr. D. D. Hooper, Sylva.

TUESDAY EVENING, MAY 29.

The General Meeting of the Society resumed at 8:15 p. m. Symposium on Tuberculosis:

33. Tuberculosis, Dr. K. M. Ferguson, Southern Pines.
34. Tuberculosis in Infancy and Childhood, Dr. E. B. Glenn, Asheville.
35. Tuberculosis in Our Southern Blacks, Dr. W. T. Griggs, Poplar Branch.
36. The Underlying Causes of Tuberculosis, Dr. Paul Pacquin, Asheville.
37. Tuberculosis, Prevention and Cure, Dr. C. A. Julian, Thomasville.
38. Unjustifiable Negligence in the Diagnosis of Pulmonary Tuberculosis, Dr. M. Eugene Street, Glenden.
39. The Early Diagnosis of Tuberculosis, Dr. W. M. Jones, High Point.
40. The Prognosis of Pulmonary Tuberculosis, Dr. James Sawyer, Asheville.
41. The Individual Who Happens to be Tuberculous, Dr. W. L. Dunn, Asheville.
42. Treatment of Tuberculosis, Dr. Arthur R. Guerard, Flat Rock.
43. The Surgical Treatment of Tuberculosis of the Cervical Lymphatics, Dr. John Gibbon, Philadelphia, Pa.
44. The Rational Treatment of Tuberculosis, Dr. W. R. Kirk, Hendersonville.

45. The Physician and His Relation to Tuberculosis as a Social Problem, Dr. T. A. Mann, Durham.
46. The Infection Dangers in Pulmonary Tuberculosis, Dr. J. Howell Way, Waynesville.
47. The Use of Cotton Seed Oil in Treatment of Pulmonary Tuberculosis, Dr. C. D. Thompson, Lowesville.
48. Personal Experiences in the Treatment of Pulmonary Tuberculosis, Dr. Edwin Gladmon, Southern Pines.
49. Tuberculosis of the Hip Joint, Dr. E. C. McEachern, Cardova.
50. Skin Tuberculosis and Other Dermatoses (Illustrated), Dr. Paul Paquin, Asheville.
51. Heredity and Environment in Tuberculosis, Dr. F. J. Clemenger, Asheville.

10:30 to 12:30, Reception, Complimentary to the Society at Colonial Club.

WEDNESDAY MORNING, MAY 30.

The session of delegates resumed at 9:30 a. m. The General Meeting resumed at 9 a. m.

GYNAECOLOGY.

Chairman, Dr. C. W. Mosley.....North Wilkesboro

52. Are We Doing Our Duty in Trying to Prevent the Spread of Venereal Disease, Dr. J. H. Marsh, Fayetteville.
53. The results of Gonorrhœal Infection in Females, Dr. H. B. Weaver, Asheville.
54. Why the Ovaries Should Not be Removed, Dr. W. Gill Wylie, New York City.
55. The Imperfect Development of Certain Organs a Factor in the Genesis of the Special Diseases of Women, Dr. B. S. Moore, Charlotte.
56. Extra Uterine Pregnancy, 14 Successful Operations, Dr. J. W. Long, Greensboro.
57. Report of a Case of Unusual Type of Ectopic Pregnancy, Dr. Chas. Z. Candler, Dillsboro.
58. Post-Operative Leucorrhœa, Dr. C. M. Strong, Charlotte.
59. The Curettement of the Uterus, Dr. M. A. Royall, Yadkinville.
60. Vessical Calculi in the Female, Dr. A. M. Caveness, Wakefield.

MATERIA MEDICA AND THERAPEUTICS.

Chairman, Dr. J. Clegg Hall.....Beardman

61. Mental Therapeutics, Dr. W. J. McAnally, High Point.
62. Kindred Basic Principles Exemplified in Common Modes of Therapy, Dr. D. A. Stanton, High Point.
63. The Open and Gauze Method of Administering an Anæsthetic, Dr. Wm. Moncure, Raleigh.
64. Portable Water and its Value, Dr. C. S. Jordan, Asheville.

65. Serum Therapy, Dr. T. G. Hamrick, Caroleen.
66. Photo Therapy, Dr. T. M. Copple, Winston.
67. Morphinism, Its Dupes and Its Treatment, Dr. F. M. Winchester, Charlotte.
68. Belladonna: A Study of One of the Common Drugs, Dr. R. E. Mason, Charlotte.
69. Immediate and Remote Influences of County Medical Organizations, Dr. J. C. Grady, Kenly.

Conjoint Session of the Medical Society with the State Board of Health.

WEDNESDAY AFTERNOON, MAY 30.

Anatomy and Surgery, Chairman, Dr. Lawrence E. Holmes, Biltmore.

70. Arthritis Deformans, Dr. L. E. Holmes, Biltmore.
71. A Plea for More Frequent Autopsies, Dr. J. P. Monroe, Davidson.
72. Modern Methods in the Study of Human Anatomy, Dr. Lewis M. Gaines, Wake Forest.
73. Where the Tides Meet, Dr. H. S. Lott, Winston.
74. On Washing the Hands, Dr. H. A. Royster, Raleigh.
75. The Value of So-Called "Conservative" or Plastic Operations on Appendages, Dr. Wm. Mecklenburg Polk, New York.
76. Appendicitis From the View-Point of the General Practitioner, Dr. E. L. Stamey, Greensboro.
77. The Early Diagnosis and Treatment of Appendicitis, Dr. George R. Dean, Spartanburg, S. C.
78. The End Results, Mental, Physical, Psychical, After Ablation of Certain Structures and Organs of the Human Body, Dr. J. E. Stokes, Salisbury.
79. The Omentum; Its Importance to the Abdominal Surgeon, Dr. J. F. Highsmith, Fayetteville.
80. Report of Surgical Cases, Dr. D. T. Tayloe, Washington.
81. Management of Post-Operative Abdominal Sections, Dr. R. S. Primrose, New Bern.
82. Chronic Ulcers, Dr. G. A. Brown, Mount Ulla.
83. Varicocele, Haematocele, Hydrocele, Dr. E. F. Strickland, Bethania.
84. Moist Surgical Dressings, Dr. B. R. Graham, Wallace.
85. Gall Stones and Diseases of the Gall Bladder, Dr. Henry F. Long, Statesville.
86. Report of a Case of Trephining for Epilepsy, Dr. W. A. Graham, Durham.
87. X-Ray Treatment as a Preventive of Recurrence Following Extirpation of Malignant Growths, Dr. W. D. Witherbee, Charlotte.

88. Present Status of the Treatment of Cancer, Dr. L. B. McBrayer, Asheville.
89. Neoplasms and Their Treatment, Dr. W. O. Spencer, Winston.
90. Un-United Fractures, Dr. S. E. Greenwood, Fletchers.

WEDNESDAY EVENING, MAY 30.

The General Meeting of the Society resumed at 8:15 p. m.
The Annual Oration, Dr. James M. Parrott, Kinston.
The Annual Essay, Dr. Thos. S. McMullan, Hertford.

Anatomy and Surgery (continued).

91. Obstructions of the Upper Respiratory Tract, Dr. H. H. Briggs, Asheville.
92. The Treatment of Necrosed Bone, Dr. J. A. Williams, Reidsville.
93. Trephining With Modern Instruments, Dr. H. M. Wilder, Charlotte.
94. Sarcoma of Superior Maxilla Removed Under Local Anæsthesia, Dr. Earl Grady, Tryon.
95. Obstruction of the Bowels, Dr. W. B. Moore, Smith.
96. The Surgery of the Mastoid, Dr. R. D. Jewett, Winston.
97. Displacement of the Kidney, Dr. Guy L. Hunner, Baltimore, Md.
98. Senile Cataract, Dr. W. H. Wakefield, Charlotte.
99. Report of Three Cases of Eye Surgery, Dr. O. M. Whisnant, Charlotte.
100. Report of a Rare and Interesting Case of Brain Surgery, Dr. A. S. Harrison, Enfield.
101. Gonorrhœa, Complications and Treatment, Dr. A. W. Greene, Ahoskie.
102. Carcinoma of Penis, Dr. Thos. M. Green, Wilmington.
103. The Physicians Obligations to His Fellow Man, Dr. J. E. Brooks, Greensboro.

10:43 p. m. The Annual Banquet.

THURSDAY MORNING, MAY 31.

The General Meeting resumed at 9 a. m.

OBSTETRICS.

Chairman, Dr. Cyrus Thompson.....Jacksonville
104. Special Address, Meddlesome Midwifery, Dr. S. D. Booth, Oxford.
105. Pernicious Vomiting of Pregnancy, Dr. J. W. Wood, Shelby, R. F. D.
106. Hyper-Emesis Gravidarum, Dr. J. W. Neal, Monroe.
107. Chorea Gravidarum, Dr. J. M. Templeton, Cary.
108. Placenta Praevia, Dr. H. H. C. Mills, Charlotte.
109. Management of the First Stage of Labor, Dr. McKee Tucker, Raleigh.
110. When the Baby Comes, Dr. Cyrus Thompson, Jacksonville.

111. Puerperal Eclampsia, Dr. M. R. Adams, Statesville.
112. Notes on Peurperal Eclampsia, Dr. W. C. Folger, Dobson.
113. Eclampsia, Dr. J. W. McGehee, Reidsville.
114. Clinical Report on Puerperal Eclampsia, Dr. J. F. Badgett, Blackwells.
115. Notes on Etiology and Treatment of Eclampsia, Dr. R. G. Rozier, Lumberton.
116. Notes on Puerperal Eclampsia, Dr. Raymond Pollock, Dover.
117. Puerpal Sepsis, Dr. J. B. Phillips, Jr., Tarboro.
118. Forceps in Labor, Dr. L. D. Wharton, Smithfield.
119. Country Obstetrical Practice, Dr. S. E. Koonce, Wilmington.
120. Cæsarean Section, with Clinical Report, Dr. J. L. Hanes, Winston.
121. Asphyxia in the New Born, Dr. C. J. Sawyer, Salisbury.
122. Clinical Reports; Two Cæsarean Sections, one Umbilical Fistula, Dr. W. H. Dixon, Edward.
123. Imperforate Hymen at Full Term, Dr. H. S. Lott, Winston.
124. A Difficult Craniotomy, Dr. L. C. Keerans, Charlotte.
125. Practical Points in Obstetrics, Dr. Albert Anderson, Wilson.
126. Report of Obstetric Cases, Dr. N. D. MacArtan, Ocracoke.
127. Perinæal Lacerations, Prevention and Treatment, Dr. W. F. Mitchell, Shelby.
128. Treatment of Abortion, Dr. S. A. Stevens, Monroe.

THURSDAY AFTERNOON, MAY 31.

The General Meeting resumed at 3 p. m.

PAEDIATRICS.

Chairman, Dr. E. H. Brooks.....Reidsville
129. Marasmus, Dr. E. H. Brooks, Reidsville.
130. The Treatment of Infantile Teething, Dr. J. Stevens Brown, Salisbury.
131. Some Practical Suggestions for the Care of Infants, Dr. Chas. G. Roberson, Greensboro.
132. Success in Paediatrics and How to Attain It, Dr. E. A. Hines, Seneca, S. C.
133. A Brief Consideration of Summer Diarrhœa in Infants, Dr. J. R. Paddison, Oak Ridge.
134. The Value of the X-Ray in Paediatrics, Dr. J. Thos. Wright, Winston.
135. Acute Osteomyelitis in Children, Dr. John H. Tucker, Henderson.
136. Evil Effects of Mouth Breathing, Dr. R. J. Teague, Durham.
137. Scarlatina, C. G. Bryant, Roaring River.
138. Infantile Diarrhœas, Dr. A. A. Nichols, Painter.
139. Personal Experiences With Diphtheria, Dr. W. H. H. Cobb, Goldsboro.
140. Mechanical Treatment of Diphtheria, Dr. J. T. Wright, Winston.

141. Methods of Diagnosis in Diseases of Children, Dr. Geo. W. Norman, Thompsonville.
142. Congenital Heart Lesions, Dr. W. T. Parrott, Kinston.

PHYSIOLOGY AND CHEMISTRY.

Chairman, Dr. C. A. Stevens.....Monroe
143. The Antipathic Inflences of the Normal Body Secretions, Dr. H. D. Stewart, Monroe.
144. Why Physicians Should Study Chemistry, Dr. H. B. Hoyle, Jonesboro.

PATHOLOGY AND MICROCOPY.

Chairman, Dr. T. R. Little.....Greensboro
145. The Use of the Microscope in General Medicine, Dr. E. A. Lockett, Winston.
146. Clinical Report on Pseudo-Leukemia, Dr. W. B. Crawford, Goldsboro.
147. Spleno-Medullary Leukemia, with report of cases, Dr. Wm. DeB. MacNider, Chapel Hill.
148. Suggestions as to Cause of Epilepsy, Dr. J. J. Mann, Louisburg.

MEDICAL JURISPRUDENCE AND STATE MEDICINE.

Chairman, Dr. W. F. Hargrove.....Kinston
149. State Medicine, as Now Enforced and How it Should be, Dr. W. F. Hargrove, Kinston.
150. National Recognition of the Medical Profession, Dr. Oliver Hicks, Caroleen.
151. An Ideal Physician, Dr. John T. Burrus, High Point.
152. The Doctor and His Patient, Dr. W. A. Goode, Waco.

RAILWAY SURGERY.

Chairman, Dr. Robt. L. Gibbon.....Charlotte
153. Physicians' Use of Automobiles, Dr. J. R. Alexander, Charlotte.

MINUTES

OF THE

FIFTY-THIRD REGULAR ANNUAL SESSION

OF THE

MEDICAL SOCIETY OF THE STATE OF NORTH CAROLINA,

HELD IN

Charlotte, N. C., May 29, 30 and 31, 1906.

General Meeting.

The Fifty-third Annual Session of the North Carolina State Medical Society was called to order in the county courthouse at Charlotte, N. C., on the morning of May 29th, with Dr. R. L. Gibbon, Chairman of the Committee of Arrangements, presiding, who made the following address:

Dr. GIBBON: It gives me a great deal of pleasure, as Chaiman of the Committee of Arrangements, to call this meeting to order, and I will introduce to you Dr. J. R. Howerton, of the First Presbyterian church of this city, who will lead us in prayer.

Rev. Dr. HOWERTON:

Almighty God, our Heavenly Father, we acknowledge Thee as the Father of Life, from whom cometh down every good and perfect gift, and we thank Thee for all the treasures of wisdom which Thou hast laid up in the book of nature for our discovery; we thank Thee for the ability which Thou hast given men to delve into the secrets of nature and to learn the things which Thou hast prepared there for the healing of mankind; we thank Thee that Thou hast called these Thy servants into this sacred profession of hea.ing; and we pray Thee that Thou wilt grant to every man who has undertaken this solemn and responsible work, that wisdom which cometh from above—that he may not rely merely upon human skill and wisdom, but upon the Divine Spirit, who interprets the book of nature as well as the book of Revelation; and we pray Thee, our Father, that they may be directed in all their researches; that their hands may be guided in all their works, and that their lives and their energies may be directed to the alleviation of pain, to the heal-

ing of diseases, to the smoothing of the dying pillow, to the betterment of their fellow-men and to the glory of God; that every man may feel that it is his high and sacred calling, and may his life and his work be consecrated to Thee. Let Thy blessing rest upon this meeting in all its deliberations, and may it all redound to the glory of God and the helping of suffering humanity, through Jesus Christ our Lord. Amen.

Dr. GIBBON: Owing to the unavoidable absence of the mayor, he will be represented in part by the Hon. T. C. Guthrie, who also will deliver an address of welcome for the Society.

Mr. GUTHRIE:

Mr. President and Gentlemen of the Medical Society of the State of North Carolina:

This gathering of the leading men of your noble profession is an event of importance. In the marvelous progress and development of our country, its resources and its people, the medical profession has more than kept up with the procession. The old-time saddle-bag doctor, with the lancet and leeches, his blue pills and his blisters has been superseded by a thoroughly educated, highly trained scientific physician of to-day.

Among the influences which have contributed to the advancement of your profession and its elevation from empyricism to a science your society deserves a high place. Our law-makers, recognizing that you are best fitted for these duties, have delegated to you the examination and licensing of doctors and the control of their professional behavior. The wisdom of this legislative action has been well demonstrated by its test for nearly a half century. There never has been a time in the history of the State when standards of the profession have been so high as they are to-day nor when the individual doctor was so well prepared and so competent. It has come to pass that a license issued by the Board of Medical Examiners, appointed by your body, is a passport to public confidence and a proof of professional efficiency.

The tendency of the present time in all branches of human endeavor is to specialize. The all-around man of all-work who can do a little of everything is a gentleman out of a job. His place has been taken by the man who can do one or a few things excellently well. The medical profession is no exception to this tendency. It stands to reason that the surgeon, who has performed some particular operation or class of operations hundreds of times, has gained skill from his experience and can do better work than a doctor who has little surgical work to do. So by a process of evolution, specialists in various branches of surgery and classes of diseases are attracting to themselves particular lines of practice. The time is coming, if it has not already come, when you will all be specialists. This result may be counted a distinct gain to human-

ity and the doctors. There are more people to be sick and more doctors to serve them. One patient may be passed around among, and contribute of his substance to, several specialists and be cured in the satisfying knowledge that he has had the top-notch of medical science in return for his money. Thus the afflicted are better served and more doctors make a living.

When a great discovery or invention is made in machinery or mechanics that will benefit mankind the first thing the inventor goes after is a patent. By means of the monopoly created by law the inventor seeks to reap the money reward of his brain and talents. No matter of what necessity or importance to the comfort or happiness of humanity the invention or discovery may be, it is branded with the dollar mark and protected by law and tribute levied for the enjoyment of it. These things are mentioned not for the purpose of saying it is wrong for a man to get money returns for his ideas, but for the purpose of emphasizing the abounding generosity and unselfishness of the medical profession. When a doctor, by means of his study, research and labor discovers some remedy that will cure or prevent disease, or some surgical process or instrument that will benefit humanity, he freely and gladly gives it to the world—not for his own glorification but as a mere matter of course.

I asked a medical friend to tell me something to talk to you about that you would like to hear. He said "tell them how to make money." This struck me as very practical, but it occurs to me that you do not need any such advice, even if I were qualified to give it. Our Charlotte doctors certainly do not need it, with their automobiles and other evidences of prosperity. The medical profession has discovered that the secret of making money is not to try to make money at all.

Some two years ago there died in a North Carolina town a doctor "who through long days of labor and nights devoid of ease" for forty years had ministered to the sick and afflicted. It was not his lot to command "the applause of listening senates." His tent was not spread "on fame's eternal camping ground." He lived the simple life. Rockefeller's millions did not cause him to lose any sleep. He devoted his life to his profession. He did not stop to bother about the patient's ability to pay. He only knew that some one was suffering and he was willing to do what he could to relieve the sufferer. He never pressed anybody. Yet he had a comfortable home—drove good stock—lived well—educated his children—and left his family in comfortable circumstances. The church and churchyard would not hold the people who came to his funeral. They were his friends among whom he lived and labored and who loved him. His grave was strewn with their flowers and watered by their tears. Who would not rather live the life and die the death of this noble man, this devoted physician, than be a millionaire with a colossal fortune built up, perhaps, by greed and graft and treachery?

While this sketch refers to a personality, it is also a type of the successful North Carolina doctor of to-day. The all-embracing charity of the physician whose feet are guided by the grand ideals of your noble profession does not degenerate into burnt incense offered at the altar of the golden calf. Devotion to professional duty brings its rewards in money and fame, and the doctor is one man to whom both money and fame come more abundantly without being sought.

Among matters of vital interest to your society may be mentioned hospitals and medical schools. The time is very recent since any surgical operation of importance meant the worry and expense of a trip to New York, Philadelphia or Baltimore. Now it is different. Almost every important town in our State has its hospital and able surgeons. Our afflicted ones can be looked after right here at home to the mutual advantage of both themselves and the doctors.

There is no more reason why our boys should be sent out of the State to get a medical education than there is that our sick ones should be sent abroad for treatment. You are not mere theorists but you have behind you experience and the prestige of success and achievement. There ought to be and can be built up under your auspices, and with your co-operation and support, splendid medical schools where first-class instruction can be given in all branches of medical science. I am not unmindful of the work that has been done in this direction and I am not minimizing or depreciating that. But there is a field for much larger work.

The doctors examined in our courts qualify themselves as experts by saying they are graduates of this or that celebrated Northern medical college. I want to hear them say with becoming pride that they are graduates of this or that celebrated North Carolina institution. Year after year our boys are going away from home spending North Carolina money to help build up big medical schools and big doctors who teach in them. We might just as well keep the boys and the money at home and build up great medical schools of our own and greater reputations for our own doctors. Thank God North Carolina is no longer a good State to move out of, but she is a good State to stay in and to move to, and she is getting bigger and better. She is no longer chiefly noted for tar, pitch and turpentine, and for filling all the census blanks relating to raw material. We are becoming a great manufacturing State and the wonderful progress for the past twenty-five years is not a marker to what the next will do. What we have done is but an earnest of what we will do. And it is not to be doubted but that the doctors will do their share in this great work of developing and building up our State.

I have been selected to perform the agreeable function of bidding you welcome to Charlotte. Our city is honored in having so many distinguished members of your profession within her gates. We are glad you have decided to meet here. We extend to you our heartiest welcome and hope your pleasure during your stay will be as great as ours in having you.

Dr. GIBBON: Reply on behalf of the Society—the response to the address of welcome—was to have been delivered by Dr. Wm. A. Graham, of Durham, but, owing to the absence of the doctor, his place will be taken by Dr. Ben. K. Hays, of Oxford. (Applause.)

Dr. HAYS:

Ladies and Gentlemen:—In the name of the medical profession of North Carolina permit me to thank you, the people of Charlotte, for the cordial reception which has been tended us here today.

It is a pleasure to visit Charlotte. It is centrally located; easy of access, and destined to become the metropolis of the State. The energy and business activity, here manifest on every side, is contagious; and, while we have left business care and worry behind, yet we catch the spirit of enthusiasm, and even while we rest from labor, resolve to do better and more efficient work when we return to our homes.

It is said by those who have visited Paris that there is a feeling of absolute freedom from care which comes over one as soon as he enters the city. This may be due to the splendid architecture which adorns her streets, or reverence for places fraught with historic interest. It may be her galleries of art that charm the eye, or music that lulls the ear; but more than these it seems to me is the presence of men and women who, while active in all the potentialities of life, have yet time to admire the beautiful and to extend to each other and to strangers those delicate courtesies which warm the heart and bring contentment to the inner man.

It is this spirit which pervades the very atmosphere of Charlotte, and this is why the sons of the old North State delight to meet within her gates.

Coming up on the train with Judge Hoke last night I heard him relate an incident which occurred in his court room, suggestive of the influence of Charlotte. He said that a negro woman was being tried for being a hoodoo. An old negro man, who was very much in earnest and had been very much influenced by this woman, was introduced as a witness and his testimony was very strong. He told of the various things the old woman had done, in which she had hoodooed him, and he was very much afraid of her. When the evidence was finished the judge said: "Gentlemen of the Jury: There is not sufficient evidence to bring in a verdict of guilty, and I therefore order you to bring in a verdict of not guilty." The old negro man looked up and said: "'Fore Gawd, she has hoodooed him too." Charlotte has hoodooed me too.

Gentlemen, it is no light task which faces us here on this occasion. We are here for work and for business. It is a very serious thing to be a doctor, practicing medicine in North Carolina—to be a member of this body and to take part in her proceedings. As I look over your faces I

am impressed with the fact that—notwithstanding that I regard myself as simply a boy, and have been in your midst, a member of this body, but a few years—a great many of the faces thatI see are faces of men still younger than myself, and I remember a large number of names from every section practically, around my own neighborhood, of men who will meet with us no more. From my own county there was an active member when I joined this body—the late beloved John W. Booth. In the southern part of the county was W. W. Cozart, who, not a month ago, was laid to rest. In the neighboring town were Dr. Cheatham and Dr. Tucker—names dear to this body; and so over the State of North Carolina there were grand old men who were active here ten years ago and who no longer meet with us. In the language of Milton:

"For them no more the blazing hearth shall burn,
Nor busy housewife ply her evening care;
No children run to lisp their sire's return,
Or climb his knees, the envied kiss to share."

But, ladies and gentlemen, would you say that those men were dead? Is Marion Sims dead? Is Hunter McGuire dead? Is O'Hagan dead? Is any man who was ever fit to live, dead? The lives and the spirits and the influence of those men are alive and in our midst today. I am glad to say that the memory of those men is still with us, and in the names of our fathers who have been laid to rest we are going to take up the work laid out before us—an educational work, more than anything else—and try to live up to the standard and the example which those men made for us.

In the name of our fathers let us here resolve to dedicate ourselves to their unfinished labors, and determine that through the influence of their example the family physician may continue to be a blessing wherever his influence is felt. (Applause.)

Dr. GIBBON: Gentlemen, I next introduce to you your President, Dr. E. C. Register, who will deliver his annual address. (Applause.)

Address by the President. (See index for paper.)

Dr. GIBBON: I want to make a few announcements, gentlemen. One is: I want to urge upon you to register as promptly as possible. When you register you will receive an envelope containing a ticket to the various clubs of the city. a ticket to the banquet, and a ticket to the reception to be given at the Colonial Club to-night at 10:30 o'clock. I urge this upon you because we have only a limited number of

tickets to the banquet, and at the last minute we are going out into the by-ways and hedges and fill out the number, so it is absolutely necessary that those who wish to be present shall have registered at that time. Dr. Hays has said that the atmosphere of a good time is in and about Charlotte, and we want to live up to that reputation.

Dr. Albert Anderson, Wilson:

We have listened to your address, Mr. President, with a great deal of pleasure, and I feel in justice to this able and scholarly address that we should express our great appreciation of the care that you have taken to get up such an able address, showing our progress in medical lines and also our defects in medical education in North Carolina, and also as to legislation. I feel in justice to this address that we ought to mention these things, and it gives me great pleasure in saying to my medical brethren that this is a very scholarly and able address that we should thoroughly appreciate, and I therefore move that it be referred to the Committee of the House of Delegates for careful consideration and report.

The motion was put to the Convention and unanimously carried. (The House of Delegates appointed a committee to report on said address, composed of Drs. J. M. Parrott, Albert Anderson and J. Howell Way.)

The President: The first paper is by Dr. P. L. Murphy, of Morganton, "Colony Treatment of the Insane and other Defectives." (See index for paper.)

Dr. Jos. Graham, of Charlotte, made a motion that the registration be done in the hall, on account of the confusion. The motion was carried.

DISCUSSION.

Dr. Parrott: I merely arise to emphasize the importance of carrying out this treatment along the lines laid down in Dr. Murphy's paper. Those of us who are so unfortunate as to be connected with the management of the insane asylums of North Carolina are forced to the conclusions at which Dr. Murphy has arrived—that we absolutely need in North Carolina more ample accommodations for the care of our insane

than we have at the present time. That the institutions in North Carolina are being managed with exceeding wisdom, and I want to take this opportunity, by way of parenthesis, to say, in a general way, that the charges instituted by certain newspapers in North Carolina against the management of these institutions, within recent months, were absolutely without foundation. (Applause.)

And the shame of it was, Mr. President, that during those trying ordeals, when men like Dr. Murphy, Dr. James McKee, and others of our profession who have given their lives to this great work, were being shelled and bombarded on all sides, that an ex-President of this Society should see fit to subscribe his name to a document which ought to be to his everlasting and eternal shame. I refer to a newspaper article which appeared in a North Carolina daily some months ago. (Applause.)

Now, Mr. President, that much I feel called upon to say, in defense of those of us who happen to be in the unfortunate position of being on the Board of Directors of these institutions. I know whereof I speak about these matters.

Now as to the "Colony" treatment of insanity: It is my opinion, based, however, upon limited observation, that it is without question, for a large proportion of the cases, the very best and most expeditious method which we possess at the present time. I was very much impressed—very favorably impressed—with every utterance contained in Dr. Murphy's paper, and I wish that the medical profession in North Carolina could become aroused to the necessity of an active, abiding interest in the management of our State institutions, for the care of our unfortunates.

Dr. Cy. Thompson: I am interested in the subject-matter of this paper. I have seen crazy people—they always interest me intensely—and yet, I know exceedingly little about them. It strikes me, though, that the general practitioner ought to be interested in the insane. There is not a month

that a general practitioner passes that he does not see and have to prescribe for a man or a woman with some phase of mental disorder which, if neglected, will develop into greater proportions, and at last the man or the woman will become a burden to the State of North Carolina.

Dr. Murphy says there are twenty-five hundred uncared for insane in the State of North Carolina. I don't know what grade of insanity this twenty-five hundred represents, certainly it is not those that are helpless; certainly it is not those that need restraint, but it is the class of patients on whom the burden of life hangs heavily. The truth of it is, after all, that the burden of a man's existence, the burden of all who have gone before him, the terrible thing that confronts him—is life! The most terrible thing is having to live—and I say that, and I am a man who has enjoyed life, and enjoy living now, and if it could run on as well with me hereafter as it has for the fifty years past, I would be willing right now to live here a thousand years.

I went the other day down the railroad some twenty miles from home, and drove out in the country to see a man sick with typhoid fever. He sent me back to the depot with a negro driver. The negro was a solemn-faced man, who had been at my office now and then. The negro said, "Doctor, it wouldn't do for a man to think too much about dying, would it?" I said, "No, it wouldn't." He said, "Do you think much about dying?" I said, "No, I always think about the other fellow dying." Now I can comprehend how every one of you will die; I can recognize that; yet I have never been able to realize how I shall die, yet I shall do it, even if it takes as long as it took Charles the Second, and it took him a week.

To be effective in the care of the insane, you must get the man away from himself. It strikes me if the colony treatment is worth anything, it is that you get the man away from the terrible fact of living; from the terrible consciousness of

himself; he thinks of other things outside of himself, and you do that in the colony treatment, when you can not do it in the hospital.

Dr. MURPHY: I am obliged to the gentlemen for the kind words they have said about the paper just read. The statements made in my paper are conservative, extravagant as they may seem to some of you.

I desire to correct one impression you may have received from Dr. Thompson, that there are no insane people outside the hospitals who are violent. I only wish this were true. Personally, I know quite a number of greatly disturbed insane people in jails or poor-houses, or confined in log huts at home. There is a man in the Morganton jail to-day, a jail nearly in the shadow of the great institution built and maintained for such as he. He has committed no crime except the crime of being sick in a State too parsimonious to care for its dependents except in prison built for felons and malefactors. This is the condition in many counties. Even refined women are placed in the common jails of this State. It is a bad condition we are in and it will remain so unless men like you put their shoulders to the wheel. You should demand of the Legislature that these helpless people be provided for by the State. So far as I am concerned, I shall not again importune another Legislature to do what it should do without asking. I have exhausted myself in this kind of work. It remains with you and other good citizens whether the insane shall continue in jails or be properly cared for by the hospitals. North Carolina, perhaps, does as little or even less for its insane than any other State. South Carolina cares for every insane person within its borders, and I am sorry to say even for some of ours. Virginia, with a smaller population and perhaps with less wealth, has twice as many insane in its State institutions as North Carolina. It is "a penny wise pound foolish" policy not to provide for these suffering and oftentimes dangerous people. Many families

are pauperized by having some insane member to look after; the bread-winner being compelled to give all his time to the care of the sick one, or protecting the family from danger. There is no hell on earth worse than having an actively insane person in a private house. Hundreds and hundreds of letters have been written me begging to be relieved of these intolerable burdens.

The doctors of North Carolina can accomplish almost anything if they but try. You can elect legislatures or governors or defeat them if you only put your mind to it and try your very best. So in a great measure it lies with you if this state of affairs is to continue in our State.

Dr. M. E. Robinson, Goldsboro: There is one thing we want to consider—that is, it seems that we are threatened with pauperism in North Carolina. I think the first man that goes there is entitled to it. I think that any citizen of North Carolina who has been so unfortunate as to have a friend insane and believes that he has as much right in that asylum as anybody. I think that we ought to take that into consideration. I don't see any justice in putting out men who have paid taxes all their lives for the indigent and insane. How many in North Carolina would be able to pay one or two hundred dollars a month to keep a father or mother in the insane asylum. I think we ought to have that law changed. We ought to provide for the insane, and I think that every man in North Carolina should have that privilege—that his child, or father or mother, or whoever it may be, if they go insane first, shall have the privilege of entering that asylum and not be put out because some man who has been a pauper all his life desires to go in himself. I think we ought to go to the Legislature and have that law repealed.

Dr. G. T. Sikes, Grissom, N. C.: I heartily concur with Dr. Robinson. I endorse his ideas. I have always taken the ground that the paupers of the State are entitled to the

protection of the State. I think while we ought to take care of the poor, Dr. Robinson, I think, is eminently correct, that the man in the institution, he may be my friend or your friend, if he goes there first, he should be allowed to remain, and if the doctors of North Carolina have the power that Dr. Murphy says they have, it becomes us to ask the Legislature to make provision for the insane. A great many men who are insane, if they are compelled to be supported by their families at home, it renders their families in destitute circumstances. I have known those cases where people have been required to pay when they were not able to pay. I think the doctors of North Carolina ought to impress the Legislature that her people are entitled to the protection and benefits of North Carolina, whether they be paupers or men of honest efforts and strenuous labors, who have made themselves able to take care of themselves or their loved ones.

Dr. MURPHY: I believe I am out of order in again speaking—I thought the discussion was over. With your permission, and the permission of the Society, I should like to say a word or two on a point brought out by the two last gentlemen who spoke. I agree with them entirely that every citizen of North Carolina ought to be equal before the law, whether he has forty million dollars or two cents. Every one should be entitled to the same treatment and receive the same benefit from the State's bounty without cost. The law requires those who have sufficient means to pay for their care, and the law must be obeyed. Our statutes have been misconstrued by the newspapers; they are ample to cover every case. The statute reads something like this: "In the admission of patients priority shall be given to the indigent, but the Board of Directors may regulate admissions, having in view the curability of the patient, the welfare of their institutions, and the exigencies of particular cases." The courts of the State have decided that this statute is constitutional. The newspapers, in their recent attacks on the hospitals, were not only unjust, but their statements were untrue.

It would be well for this Society to request the Legislature to provide for all the insane. I repeat again, if you gentlemen want this done and make up your minds to it, you can get it. This Society is, I believe, the most influential body in the State, and you can accomplish this if you really make up your minds to do so, and try.

Dr. GEORGE G. THOMAS, of Wilmington: I was called out just before Dr. Murphy read his paper. I would be glad if you would allow me to say a few words in commendation of the plan of colony settlement of selected inmates of insane asylums.

As a member of the State Board of Health, it has been my privilege to visit the State Hospital at Morganton, and to inspect as one of the committee the colony which the Doctor has built there, and the plan which he so enthusiastically presented to you this morning. I wish to say, in addition to what the Doctor said, that we found these buildings beautifully located in a large grove of oaks, in the grounds that had been broken out from the primitive forests, and which were beautified by the patients themselves—in the beginning, of course under directions, but gradually as they stayed there longer and longer it became a point of pride, then diversion, then alleviation of their mental troubles to take care of this property. They were taken away from the mass of the population at this institution and put out there at this isolated spot—I mean by that, segregated from the mass of patients. They cultivated the yards, planted trees, raised chickens, cleaned the house, ploughed the field and raised crops, and the idea which grew from the beginning with them was that this was not a part any longer of the great hospital, but it was their home. They were happy and contented, and the Doctor tells us that out of that experiment that there have grown more and more recoveries and improvements than through anything else that has been done in the great institution. It is the constant occupation. I saw one man en-

gaged in breaking rock to make macadam roads. He was diverted from his horrible delusions! he was taken away from all the troubles which his disordered mind conjured up, and his surroundings and everything connected with it worked to his recovery. The colony treatment, it seems to me, promises more for a certain and very large class in the hospitals for the insane than everything else. The inmates of the new home erected under the plan became interested in their surroundings, and also became possessed of the idea that they are really at a home of their own, for which they must plant and grow much of what they need for daily use—and in this they are constantly improved, and if one succeeds in interestedly employing a disordered mind, a great move towards putting the person on the road to recovery had been made.

I remember the Doctor told me of a young man who had worked very hard for a number of years and was broken down. He said for a long time the man sat and cried because nobody cared for him and he was alone in the world and useless. This condition made him difficult of approach or appeal. One day the Doctor found him in a part of the hospital grounds where he was considering the direction of a certain walk, the poor chap sat comfortless, wringing his hands, and bemoaning his lonliness and his uselessness. The good physician turned to him peremptorily and made him step off a path in one direction, counting his steps while he did the same thing in another, and after several excursions over the grounds, he adopted the path set out by the patient, doing it with a show of appreciation. This was a trifle, but it appealed to the poor fellow and he changed to smiles and said that at last he was capable of doing something for the other people, and somebody cared for him.

The Doctor tells me this turned the tide, and from that day he improved and was always willing and eager after that time to be employed, and he has now fully recovered. He had literally worked out his mind's salvation, and this is

largely the basis of the improvements that follow the treatment of these unfortunates in the colony settlements.

Dr. R. H. Lewis, of Raleigh: Dr. Thomas has so well covered the ground he has left but little to say. I thoroughly endorse everything he has had to say. I am thoroughly impressed with this system. The main idea is that they get away from the hospital. Many of our patients come from a little country district, and they go into this splendid hospital, in which they never see a fire; if they want to spit they have to spit in a cuspador, and they feel like they are in a foreign country, but in the colony they feel like they are in an ordinary house, just like at home, except that it is better. They have an open fire-place—my own idea of a comfortable home. They can put their feet on the mantlepiece and spit in the fire, and their surroundings are all of the same character to which they were accustomed at home. They have the chickens and pigs to look after and the insane patients are very much like children, and you want to turn their ideas away from their own melancholy musings. So these children look after the pigs and chickens. I remember being very much interested in an old woman who took great delight in the turkeys. It is the best method to cure those people, where they are of such a character that they can be given the liberty that belongs to this system. Another idea is—that it is cheaper. A great many more patients can be accommodated this way than in the hospitals, and it seems to me that this is the idea to use in taking care of them. I believe it is a thoroughly practical plan and the most effective one that we have any idea of.

Dr. S. D. Booth, of Oxford, N. C.: There are people in my county now who ought to be in the Asylum, and they haven't room for them. I make no complaint of the Superintendent—especially of Dr. Murphy. I had a patient not long ago, and it was very necessary that he go to the Asylum, but they informed me they had no room for him.

They had three hundred and twenty-nine beds, I think, or three hundred and thirty. Now, we ought to go to the House of Delegates and get the House of Delegates to go to the Legislature, and get them to give us more room for our insane. I have a patient now, forty years old, almost a manaic. They have to watch her continually. I can not put her in the Asylum. They haven't room for her, but I am going to make a desperate appeal to get her there. We ought to have more room for the care of the insane, and let's induce the Legislature to give it to us. We certainly need more room for our insane. I don't know whether we are going crazy faster in our county than in other parts of the State, but in any event, we need more room for our patients in the institutions.

"Some points in Clinical Psychiatry of interest to the general practitioner." Dr. I. M. Taylor, of Morganton. (See index for paper.)

DISCUSSION.

Dr. J. A. Burroughs: Dr. Taylor called our attention to one fact—that was the point he made of the importance of the physician being able to make a diagnosis as to whether the case was one of simple inebriety or drug using or insanity. That at once recalled to my mind a minister who lived in another State. He was formerly a very bright, pleasing man, who would apparently hold any charge that he was so fortunate as to get, but later something went wrong with him. Some of his members called him a "doper," perhaps a "boozer," and other names, the epithet no less vile. Well, there was no absolute evidence that that man was using morphine, but there was a conclusive sentiment that he was using morphine. There was no positive evidence as to whether that man was a paroniac or using a drug. It ended, however, in his wife going one way and he another, he of course being a "doper." That was what he was pronounced—a "doper." Now, according to my limited knowledge of psychiatry, that

man was a paroniac and not a doper. At any rate, the evidence as to his being a morphine user was not proven. We could have taken the ground that he was a paroniac. We could not, with good logic, say that he *was* a paroniac, yet he had to leave his country, his wife and all that he loved, and go another way.

I consider that part brought out by Dr. Taylor of the greatest importance.

Dr. MURPHY: I promise this will be the last time I will address the Society this session. Dr. Crowell, in discussing Dr. Taylor's paper, said he found great difficulty in determining between a paroniac and an opium or morphine addiction. I believe we often have a paroniac who uses morphine and other narcotics to excess, the drug taking is simply grafted on to his disease.

It used to be a common belief that masturbation was a fruitful cause of insanity, whereas it is really one of the effects and not a cause. I believe the same can be said of drug and alcoholic addiction. There can be no question that the abuse of narcotics does cause a great deal of insanity in a certain class of people—people who are rather disposed to nervous diseases, just as we see in some persons a predisposition to contract tuberculosis. It is not always possible to determine these questions without a complete history of the case.

I don't want to say anything to you, gentlemen, that will make you feel badly, but, so far as my observation goes, the average practitioner of medicine knows but little of insanity. In a doubtful case I would rely more on a lawyer's opinion than on the average general medical practitioner as he is today. I remember so distinctly that when I began the study of insanity, after several years of general practice, how absolutely ignorant I was of this disease in all of its phases. I didn't know the difference between the so-called mania and dementia, to say nothing of the difference between an infec-

tious and exhaustive psychosis. It is not to be expected a general practitioner should be an accomplished alienist any more than he should be a skilled occulist, but he could know more than he does. There are several elementary works you might read which would be of service to you and your patients.

Dr. S. M. Crowell: I want to emphasize what Dr. Murphy has verified, that there are doctors that could hardly tell the difference between an effective and an exhaustive psychosis. I leave it to you. The general practitioner can not make this diagnosis, especially when the person can use deceptive methods to get this drug. It is important to make this diagnosis.

Dr. Isaac M. Taylor: I have nothing further to say. I thank you, gentlemen, for discussing my paper.

"Incidental Observations on Hydrophobia." Dr. Davis Furman, Greenville, S. C. (See index for paper.)

DISCUSSION.

Dr. R. E. Mason, Charlotte, N. C.: It has given me a great deal of pleasure to hear Dr. Furman's paper. He has given us a paper on a subject that is very much neglected. Very few of us see cases of hydrophobia, and because we do not see them we give it little attention. We are remiss in our duty. He has called attention to the fact that it can be prevented. We should use our influence to gain two points: One to teach the layman that a mad-stone will not prevent hydrophobia; the other to bring the law into force that dogs of any kind must not be roaming around without a muzzle. One life is worth all the dogs in the State of North Carolina—to the State of North Carolina. One man, living in the State of North Carolina, his life is worth all of the dogs; and while we have numbers of cases, not so very many, but still a few, every year, I think it is our duty and the time is ripe for us to teach the populace.

Dr. A. A. KENT, Lenoir, N. C.: I listened with much pleasure and interest to the paper just read. It is a subject that I have thought about a great deal, but I have had no opportunity for investigation or research upon it, except that I have been the unfortunate physician to a number of people bitten by rabid dogs. I assure you, gentlemen, that I feel very helpless when I have a call to attend a person bitten by a rabid dog. It has been my misfortune to have to send to hospitals for treatment nine persons, in three different batches, bitten by three different dogs—one of which was found to be rabid by the Pasteur Institute test, another was found to be rabid by other animals that were bitten by it going mad, the other was determined by one of the people who had been bitten going mad and dying.

While I do not know much about hydrophobia, I have had that unfortunate experience of coming in contact with a number of people who were bitten by dogs that were unmistakably rabid. That kind of experience naturally puts a person to thinking, and I listened to the Doctor's paper in the hope that he would solve some, at least, of the problems for me, that I have been unable to solve for myself.

One of these questions is what the virus of a rabid animal is doing in some instances in the human economy for so long a time after it gets in, from six months to six or seven years before it develops a case of rabies. Why this long and uncertain period of incubation? We know about the cycle of development of malaria; we know something about the cycle of development of yellow fever, and of other infectious diseases. They have a reasonably definite period, or cycle of incubation, development and course, resulting in final recovery or death to the patient. It is not so with rabies. It is a mystery to me why the period of incubation is so long in some cases and that it develops so quickly in others. I would like for the doctor, if he can, to elucidate that mystery for me. I have thought that sometimes it was incarcerated in

cicatricial tissue, and that it remained there for a long time. That cauterization days, or even weeks after the bite, might prevent the development of hydrophobia. I know that in some of the institutions they cauterize the bite, no matter how long a time has elapsed since it was inflicted.

Another question is, what are we to do with these patients? Now, the doctor would at once say, "send them to my institution"; Dr. Kirle, of Baltimore, would say, "Send them to *my* institution." That means two hundred and fifty dollars to be paid by somebody, and these unfortunate people are not usually able to raise that amount. It is a pretty heavy tax to levy and collect from the community, when you have people in the community who do not believe in hydrophobia. They won't be taxed. The doctor may make the strongest appeal that he can to them to contribute two hundred and fifty dollars with which to send these people away, and they will not give it. The doctor, for humanity's sake, is liable to have to go deep down into his pocket to help them, and take his chances on getting it back from some source. I think the remedy for this difficulty is in State institutions, built and equipped and maintained by the State for the prompt treatment of these unfortunate cases. A dog tax should be levied exclusively for this purpose. Let the good as well as the evil that the dogs do live after them.

Dr. H. Q. Alexander, Matthews, N. C.: The paper to which we have just listened is a very able and comprehensive one, and one which the author has given much thought and research to. There was one fact brought out in that paper which to every medical mind should be interesting—to every physician it should be an interesting fact: that hydrophobia is preventable. And how? By destroying the dogs that produce it. How it this to be done? Only by legislation against the dog. How is that to be accomplished? Only by united action of the intelligent men of our State, who know the seriousness of this question. It is a matter of common

remark, that if a legislator introduces a bill against the dog, he need not expect to go back to the Legislature again. Let the physicians of this State take up this question, discuss it with their representatives in their own county, and let us, by united action, see if there can not be legislation enacted in North Carolina that will destroy the worthless mongrel dogs that prowl over our State.

It was stated in the paper that hydrophobia usually has its origin in the dog, or the poor negro, or the poor man who has a mongrel dog prowling around over the community. It would be a blessing to the State—to the owner himself—to get rid of that dog.

Now, the medical profession, discussing this question among the intelligent citizens of every community, can accomplish this purpose. Let's take action in the matter and see if good can not result from the reading of this paper to us this morning.

Dr. Furman: I just rise, Mr. President, to thank the gentlemen who commented on my feeble effort, and to my friend on the right I can only say that, in answer to the questions that he propounded, I can as well tell him what the virus is doing in the system as I can what the poison of syphilis is doing in the system. He slightly misunderstood me. He evidently thought that I was here to exploit an institution for treating hydrophobia. I am entirely disinterested in the matter.

"Acute Articular Rheumatism." Dr. E. C. Boyette, Mount Holly. (See index for paper.)

DISCUSSION.

Dr. Faison, Charlotte, N. C.: In the first place, I want to thank Dr. Boyete for bringing this subject before the Society and for going over the literature and bringing it up to the present date. I don't like the name of his paper, the way he has put it. He says: "Acute Articular Rheuma-

tism." In my opinion he should have said "Rheumatic Fever instead of Acute Articular Rheumatism." Acute articular rheumatism is only the manifestation of the disease. You can't have rheumatic fever without the symptoms of the articular rheumatism. If there is one disease in North Carolina that has gone astray from the medical profession, it is rheumatism. Rheumatism covers a multitude of sins and a multitude of ignorance in North Carolina, both in the medical profession and in the laity. I look upon rheumatic fever as an acute infectious disease, that is neither communicable nor contagious. In other words, you don't take it from the other fellow. You may sympathize with him in his pain, or you may sleep with him, but you don't take it. I look upon it as due to a specific organism, and that specific organism is to-day named and classified as the bascili rheumatica. I am glad that the men of the present day are coming to the conclusion that it is a self-limitive disease, without any chronicity. Gentlemen, when men come to you with diseases of the joint and call it "rheumatism," don't you call it that, because it may not be. "Rheumatism," or pains and swelling of the joints, isn't always rheumatism. Rheumatism attacks the large joints, with a temperature due to this specific fever, that is self-limitive and would cure itself if let alone, but thanks be to the materia medica men, they have placed in our hands a specific—the salicylates of soda. If you want to get the best results in the treatment of rheumatism, use the salicylates made from Merck's salicylic acid, which is made from the winter-green. There are tons and tons of salicylates thrown on the market to-day that are not worth a cent, and if you gave a man a car load it wouldn't give him any relief. It is a disgrace to the druggists who would sell such a thing as that. Put down under your prescription Merck's, and when you give a man a dose of that, and a plenty of it, you will relieve his pain.

The worst manifestation of rheumatic fever is the disease of the mitral valve. Many cases of mitral insufficiency comes from that. All infectious diseases can produce it, but the rheumatic bacilli is the cause that produces the greatest number of the diseases of the mitral valve—dilitation, dropsy and death. I have a little child in my hands now, who had acute articular rheumatism a few years ago, who has as beautifully marked mitral valve lesion, and that child has to-day a wounded valve that no man can cure, and it was brought about by this baccilus growing vegetation on the mitral valve.

Dr. Boyette: I have nothing new to offer, and thank Dr. Faison for discussing my paper.

"The Treatment of Goitre." Annie L. Alexander, of Charlotte. (See index for paper.)

The President: The House of Delegates will meet in the hall opposite at 3:15. The general meeting will be here this afternoon at three o'clock.

Dr. Way: I move that we take a recess until 3 p. m. (The motion carried.) Gentlemen, I would like for you to register as you pass down.

The Society took a recess until 3 p. m.

Tuesday Afternoon.

Convention re-assembled at 3 p. m., with Dr. L. P. McBrayer, First Vice-President, in the Chair.

"Therapeutic Nihilism and Pneumonia." Dr. N. P. Coppedge, Margarettsville, N. C. (See index for paper.)

DISCUSSION.

Dr. S. D. Booth, of Oxford, N. C.: I was particularly struck with what Dr. Coppedge has said about treating pneumonia with creosote. I do not remember ever giving creosote in my life for pneumonia, but I have given it for consump-

tion, and I have seen many reports of its use in consumption, but we happen to know that creosote is eliminative by the lungs. If you take a few drops of creosote and give it to the patient and let it go through that volume of blood, and then attempt to kill baccili with it, you fail to do it; but if you get it in contact with the baccili it will do it. When a man drinks whiskey you will smell it on his breath. It is because alcohol is eliminative by the lungs, and for that very reason alcohol does consumption a great deal of good, and in some cases I have no doubt it would cure the patient, if the patient didn't kill himself with the whiskey first. In pneumonia you have the same state of affairs. You have your lung trouble and you want to bring something in contact with the germ in the lung. Creosote is eliminative—a great deal of it. The Doctor tells you that it will do better if mixed with alcohol. Two articles there being eliminative by the lungs and antiseptic and peculiarly so for that particular thing, and while I never thought about it before in all my life, I verily believe that the question is one worth considering, and that it is worth our while to try creosote in pneumonia because pneumonia is one of the most fatal diseases with which we have to deal. It is killing more people to-day than consumption, and consumption is killing one-seventh of the human family in America, and if we can strike something that kills the baccili in pneumonia, we have struck at the root of the disease, and I shall go home and try creosote in pneumonia.

Dr. Coppedge: I would just like to add a little to the paper. A physician from the North, who has recently come South, has treated many cases of pneumonia with carbonate of creosote or creosotal, and seems to get his results faster because, I suppose, a larger portion of the drug can be taken without irritation of the stomach. The only symptom that causes him to let up in giving creosotal is carboluria. Whenever that occurs he withdraws the treatment for a while, or

decreases the doses. I don't know which remedy is the best, as I have had no experience with creosotal. It might be that the creosotal is the best, but I have always used Merck's Beechwood Creosote with an equal amount of alcohol. To an adult I give about 10 minims of the mixture three times a day. I don't think that amount of alcohol is enough to exert much of an antiseptic influence on the tissues of the lungs, but that is the way I have always been giving it, and while I have lost two or three cases of broncho-pneumonia that had been caused by whooping-cough, in small children, I was not called to these cases before the disease was far advanced. I have never lost but that one case of *lobar* pneumonia, as mentioned in my paper.

"The Treatment of Typhoid Fever." Dr. J. M. Matthews, Mt. Pleasant, N. C. (See index for paper.) No discussion.

"Malaria as Seen in Gaston County." Dr. T. C. Quickel, Stanly Creek. (See index for paper.)

DISCUSSION.

Dr. WHARTON: I am sorry that I can not begin to give any cause for this trouble, but I want to say in my county—Johnston County—there is a question of equal importance to us, that I would like to ask the Society's opinion on; it is this: Some five or six years ago we had in about the centre of the county an outbreak of what is known as "yellow chills," in the Eastern part of the State. We had it one year out of the ten years that I have been located there. That is the only year that we have ever had it. I know no cause for it. W have malaria repeatedly every year—about the nature of that in Gaston County—but we have never had this form of hemorrhagic fever that we had, I think, five years ago.

Dr. MARSH: I wish to say I have enjoyed the Doctor's paper very much, and I think he has given us a clear history

of our malaria as it occurs in the intermittent and remittent forms. What the difference in the causation is, I do not know. In the swampy section of Cumberland County we have had quite a lot of the hemorrhagic fever, and we have had a large section that has almost been depopulated by the white residents dying, and the ones remaining moving away.

The only cause that we could assign was the extreme poison of the malaria, and we noticed that the patients who lived in the swampy section who drank the water and breathed the air, as well as having the mosquito to contend with, were much more subject to the disease. I have had a number of patients during the last fifteen years, and especially during one epidemic about ten years ago they were subject to the hemorrhagic form of the malaria, and I wanted to call the attention of the Society to one fact which seemed to ameliorate the disease to a great extent, and that was boiling the water before they drank it. And after doing what we could in regard to providing the houses with screens and mosquito nets to protect them as far as possible from that source of infection during the nights, I have had a number of my patients to boil the water and barrel it up or put it in kegs, keep those kegs corked and on ice in the summer time, and drink this water, and in that way I have seen the malaria in its pernicious form very much reduced. I think that the difference is one of degree and not of kind, and I think probably the great cause for this difference in the malignity of the disease, is that the patients inhail the air impregnated with the miasm from these swampy places, drink the water which is impregnated with the poison and also have the mosquito to contend with. I would be very glad to hear the gentlemen from the different sections of the State discuss this question, as I think it is one of vital interest to us all.

Dr. Rodman: Not coming from a markedly malarial section, but being very much interested in the subject under discussion, as a great portion of our State is continuously

infected with this disease, I would like to ask the gentlemen from the malarial-infected districts of our State if it is a fact that a small dose of quinine administered daily will serve as a reliable antidote, as a preventative of development of malarial poison. I have heard it said by competent authority that the administration of a single grain of quinine daily in the malarial district will act as a preventative in many cases in the development of the poison.

Dr. MARSH: There was just one question I wanted to refer to along that line, and it was this: Ten or twelve years ago, when we were suffering with so much malaria in this particular section that I have referred to, it was a common thing for the residents of that section to take quinine in enormous doses. Those people would buy the quinine in quantities and, as the saying was, they would take it at their table in the place of sugar, and during that time we, the members of the medical profession, were convinced, from some cause or other, that in the way in which it had been used it wasn't having the desired effect, and almost the entire profession in our town reduced the doses of quinine materially in those pernicious forms of disease, and we found that we got much better results and our patients who live in those districts have almost given up the general taking of quinine. And where twelve or fifteen years ago they took it in quantities, for the last several years I think it is very seldom a patient in this particular section ever takes quinine, except when prescribed by the physician, and I think the old rule of giving enormous doses of quinine in the pernicious form of malaria is a mistake, or at least that has been our experience—in this section at least.

Dr. J. M. MATTHEWS: Speaking of the prophylactic use of quinine—it would be hard to find out whether it was a preventative or not, unless the people were more willing to take it than in my community. They are very willing to take it when they are sick, but they don't want to take it

when they are not. I think it much better, though, to look after the prevention of malaria by screening the house and destroying the mosquitoes than in taking quinine indefinitely.

Dr. J. M. PARROTT: Mr. President, in accordance with the usual custom, I desire to present the report of the Board of Medical Examiners. I believe it is the custom to read it in this branch of the Assembly and then have it referred to the House of Delegates. In the first place, we have a resolution which we desire recorded and some action taken upon it in the House of Delegates. This resolution is of vast importance to the medical profession of North Carolina, and we hope it will have a salutary effect upon the profession. (See Index for paper.)

CHAIRMAN: I have no doubt you are all heartily in favor of the resolution, and I will entertain the motion, and refer the same to the House of Delegates without endorsement.

It was unanimously carried that the report of the committee be referred to the House of Delegates, especially in regard to the resolution as named above.

"Broncho-Pneumonia Complicating Measles." Dr. J. G. Busby, Spencer. (See index for paper.) No discussion.

"The Relations Existing Between the Upper Air Passages and the Lungs." Dr. R. V. Brawley, of Salisbury. (See index for paper.)

Dr. MARSH: I wish to say that I have enjoyed the paper of the Doctor very much, and I think that he calls the attention of the Society to some very important facts in the obstruction of the upper air passages. I think there is entirely too little attention paid to this condition of things in children, and we all know the ultimate consequences of allowing those diseased conditions to remain. I think the reason, as a general thing, that we physicians in North Carolina do

not have more cases of adenoids and obstructions of the different kinds of the upper air passages is simply because we are not inclined to look for them. In other words, we are not inclined to look after our patients while they are up and about, but wait until an acute attack develops. I think the Doctor has called our attention to some very important facts in this particular branch of diseases.

I have seen a number of cases of obstruction of the upper air passages, which have led to serious results, from what we might call absolute negligence on the part of the attending physician. I do not think we can emphasize the importance of treating this class of diseases too strongly.

Dr. Brawley: I want to emphasize the importance of early treatment in these cases of atrophis rhinitis. It is a condition sadly neglected by the laity and the physician. It gives so little trouble in the beginning, and grows so gradually, that treatment isn't begun, as a rule, until too late to give but temporary relief. I just want to put a little more stress on the importance of early treatment in these cases.

A recess was taken by the Society until 8:15 p. m.

It is noted that by general consent, those who had papers to read, and were not present, had them read by title.

Tuesday Evening, May 29th.

Convention called to order at 8:15, with the President presiding.

"Tuberculosis." Dr. K. M. Ferguson, Southern Pines. (See index for paper.*)

"Skin Tuberculosis and Other Dermatoses." (Illustrated.) Dr. Paul Paquin, Asheville. See index for paper.*)

"Tuberculosis, Prevention and Cure." Dr. C. A. Julian, Thomasville. (See index for paper.)

*Note.—It was decided, on account of the general symposium of tuberculosis, that all papers, of like nature, upon the same subject, be discussed together.

"Unjustifiable Negligence In the Diagnosis of Pulmonary Tuberculosis." Dr. M. Eugene Street, Glendon. (See index for paper.*)

"The Early Diagnosis of Pulmonary Tuberculosis." Dr. W. M. Jones, High Point. (See index for paper.*)

"The Prognosis of Pulmonary Tuberculosis." Dr. James Sawyer, Asheville. (See index for paper.*)

VICE-PRESIDENT: This symposium on tuberculosis is very interesting, and I am always delighted to listen to my friends—in fact, I thought a while ago, in listening to the papers, that we were going to hear how to cure tuberculosis to-night, and if I thought that could be the case, I would be willing to stay and listen to it, but as the ladies of Charlotte have very kindly tendered us a reception at this hour, I move that we attend that reception.

Motion was unanimously carried, and the Society took a recess until Wednesday, at 9 a. m.

WEDNESDAY MORNING, May 30th.

Convention met at 9 o'clock, with the President in the chair. The program of Tuesday evening—the "Symposium on Tuberculosis," which had not been finished, was taken up and completed. Dr. Arthur R. Guerard, of Flat Rock, reading the first paper:

"Treatment of Tuberculosis." (See index for paper.)

"The Rational Treatment of Tuberculosis." Dr. W. R. Kirk, Hendersonville. (See index for paper.)

"The Physician and His Relation to Tuberculosis as a Social Problem." Dr. T. A. Mann, Durham. (See index for paper.)

"The Use of Cotton-seed Oil in Treatment of Pulmonary Tuberculosis." Dr. C. D. Thompson, Lowesville. (See index for paper.)

Dr. W. S. Anderson, Wilson: It strikes me that we ought to petition the Legislature to pass a law prohibiting any man who has this disease, from spitting on the ground and scattering the disease. Now I would favor petitioning the Legislature to provide a place for the treatment of these people, but it is hardly probable that we could get the Legislature to do that, so I think if we will petition the Legislature that where a man has a cough for any length of time, to force him to have the sputum examined; when the tubercular bascili is found, make it a misdemeanor for him ever to spit on the ground, and furnish him with paraffine bags to spit in and require him to burn them. In that way we will cut off the supply. The generation that has it will finally die out, but if we can keep off the new crop, why we will greatly benefit humanity and eventually get clear of this disease that is killing so many of our people. It strikes me that there ought to be something done in that line, petitioning the Legislature for that purpose.

The program of the morning was then taken up, Dr. J. H. Marsh, of Fayetteville, reading the first paper: "Are We Doing Our Duty in Trying to Prevent the Spread of Venereal Disease?"

"The Results of Gonorrhæel Infection in Females." Dr. H. B. Weaver, Asheville.

Dr. Weaver's and Dr. Marsh's papers were discussed together. (See index for papers—Drs. Weaver and Marsh.)

DISCUSSION.

Dr. J. M. Templeton, Cary: I have a word to say as to the Doctor's duty as to the prevention of venereal disease. I think that to a certain extent his work is educational, but from my point of view, Sir, a large part of our duty is discharged when we attempt to treat a case of venereal disease. The prevention of it seems to me, Sir, to lie largely with another profession; it seems to me, Sir, that our ministers

should inculcate into the minds of the people the proper attitude with regard to this disease. It seems to me, Sir, putting too much on the doctor—in other words, you say that he must educate people to do thus and so; he must educate them to live with or without tuberculosis; he must educate them to prevent venereal disease—I regard that as part of the minister's mission in this world. I think that the doctor realizes his duty and does it, but I think, Sir, the false modesty on the part of the minister has prevented him from doing his duty, and I wish to call the attention of the convention to that point.

Dr. J. A. Burroughs: I do not think the ministers should be prepared to discuss this subject. I think it is a little far-fetched.

Dr. Coppedge: Following out the course suggested in the Doctor's paper, of educating the laity, I got hold of a medical journal once in which there was a regular symposium on gonorrhœal and other venereal diseases, and read it to some of my young men friends in the community, and they discussed it among themselves, and they reached the conclusion that only the rational prevention of gonorrhœa was in abstinence. One of them went down to the city not long after that, and came back with a pretty bad case, so I don't know whether it does much good for the doctor to try to instruct the laity or not. I am willing to leave it to the preacher, for I think I have been rather unsuccessful. The minister's don't say enough about it. If they have too much false modesty, they might at least make a special talk to the male part of their congregations once in a while. I think it would be a good idea. I don't know whether it would do much good, coming from a doctor, trying to instruct the laity in that respect.

"The Imperfect Development of Certain Organs, a Factor in the Special Diseases of Women." Dr. B. S. Moore, Charlotte. (See index for paper.)

DISCUSSION.

Dr. WEAVER: It seems to me, that such a practical and far-reaching paper as this should not go by unheeded. The disposition seems to be here to-day not to discuss *any papers*, and I feel that I break the rules in rising to emphasize the practicability and the good sense of that paper read by the Doctor. It is like one of the great diseases, tuberculosis, that has been read very much about and spoken on this morning—that nutrition is the basis of the cure—local nutrition. When I sat at the feet of Gamalium, whom I thought would be here to-day—Gil Wiley—I learned much. His main dictum in these cases of want of development was, to give sufficient nutrition to the parts by massage, by application of boroglyceride tampus, and after a certain time, then gradual dilitation, until you reach the trouble of dysmenorrhœa at the internal os, and by the gradual and painstaking dilitation and patient application of these medicines, a great many cases of invalidism can be avoided in young girls and in young married women, without the surgical interference into which so many are wont heedlessly to rush.

Now, of course, one sparrow does not make a summer, but a case in my hands two weeks ago points to the practicability of this course. I had a patient, a young married woman, whom the doctors told after marriage she would be entirely relieved of dysmenorrhœa. Her suffering at each menstrual period became almost unbearable; her husband applying to me, in consultation, for relief. I examined the patient, found the trouble, and began the treatment of local applications, as the Doctor so well said of the boroglyceride —Dr. Gil Wyle's, two or three times weekly. When by this plan of treatment, I had developed the uterus, and got in it a better circulation, I began gradual dilitation; then by the application of medicines to the internal os—boroglycerides iodine and chloral, I made a cure. I was informed last week that the lady had passed through without a particle of

pain, she had gained six or eight pounds, the appetite had improved, the reflex nervous symptoms were all gone, and she was in a happy condition from this local application. So I just want to emphasize the points that the Doctor brought out in this paper.

Dr. Royster: There are five physiological periods in the life of a woman: Infancy, puberty, maternity, the menapause and senility, and I have, for practical purposes, divided into three sources all of the causes of disease peculiar to women. I think this classification will include everything: Traumatism, infection and deformity. Traumatism from childbirth, infection from childbirth and venereal disease, deformity which may be congenital or acquired. These sole causes of gynacological disease, at once point the way to the fact that all of them must be relieved by surgical means. Traumatism is to be repaired; infection must be drained and gotten rid of, and deformity must be corrected. The last of these causes—deformity—with which Dr. Moore's paper is particularly concerned, is one of the prolific sources of disease in women, and it occurs congenitally or as an acquired affection during the period of puberty. The greatest crime of the century is civilization, and it is particularly hard on women, but remember woman didn't make it; if she had, it would suit her very much better. Man has made that civilization, and it has imposed burdens on women which they are unable to bear. In fact, the civilization that we have just now doesn't agree with women very well. We will have a better one after awhile when women have charge of it. The educational features of civilization do not meet the issues at all, because we are all too ignorant to teach even little children, and the only thing we can do is to keep the schools from interfering with it.

The average girl in school (to which the essayist has just referred), is met by facts and questions that she can not handle. She is put into school just at or before the age of

puberty; she is made ambitious to study when she ought to be roaming the field like a colt, kicking up her heels, and she has burdens upon her there which, though she be a healthy girl to start with, produces disease and deformity which it isn't necessary to describe. The congenital deformities are those which we see in the infantile uterus, and the acquired deformity is that which we see in the anteflexed uterus. So it stands to reason that this deformity, which is the chief disease acquired in this way, must be remedied by surgical means only, provided it produces dysmenorrhea and sterility.

Therefore, if obstruction has been produced, then it is our duty to relieve it by surgical means.

We have been told beautifully of the obstructive theory of dysmenorrhœa, but beyond and above this the congestion which exists is the important factor. I believe if we could cure the uterus without dilating it we would cure it more safely than by dilitation alone, because in all of these cases the pain, the sterility and the complicating symptoms are due rather to the congested endometrium than to the obstruction to the flow of the menstrual blood.

I think these papers on this subject are extremely timely, and if we are ever to reach a solution of it, it must be through education of the doctor, as well as the laity, and remember that we, in our present situation, are too ignorant to teach children.

"Extra Uterine Pregnancy—Fourteen Successful Operations." Dr. J. W. Long, Greensboro. (See index for paper.)

DISCUSSION.

Dr. Guy L. Hunter: I quite agree with you that this very important paper ought to be discussed, and especially in a body made up of general practitioners.

There is scarcely any excuse to-day for a physician to overlook the diagnosis of an extra uterine pregnancy, and

moreover he should not wait until the rupture of the pregnant tube before making the diagnosis. There is scarcely any pelvic trouble that we meet with that is so well marked in its symptoms as extra uterine pregnancy, and every physician ought to be at least a diagnostician; he may not be able to make a certain diagnosis in all cases, but with any complaint of obscure pelvic trouble he should keep in mind an extra uterine pregnancy. The slightly delayed menstrual period in a woman who otherwise has been normal; pain in the pelvis usually on one side; possibly after eight or ten days of delayed period a slight show, a spot on the woman's garments, and the pain ordinarily increasing from day to day; from these symptoms and an examination showing a little more fullness in one vagnial fornix one should be very suspicious or even morally certain of an extra uterine. One ought not to try to outline a mass in these cases for fear of rupture of the pregnant tube, but ought to be satisfied with simply finding a little more resistance in one side than in the other.

I would like to add just one word to Dr. Long's paper, from the standpoint of the surgeon: He discussed the etiology of this condition, and spoke of the holding up of the ovum in the tube by some obstruction. Undoubtedly that is the cause of almost all of these cases—some obstruction in the tube preventing the ovum from getting down into the uterus in the normal way, and from the standpoint of a surgeon I wish to emphasize that during the operation the other tube should be removed in many of these instances. I think before operating in these cases we ought to explain to the woman and find out what her desire is in regard to more of a family than she has. Of course a woman who has no family at all will scarcely consider the removal of the other tube, but with a woman who has a large family and is satisfied with the number of children she has, I think it is conservative surgery to sterilize the patient. I say this be-

cause of the experience that I have had in the past two years in operating on two cases of ruptured extra uterine pregnancy in women who have been operated on previously for ruptured extra uterine pregnancy of the other side.

Of course we would not think of removing the ovaries and the uterus in a case of this kind. This is one cause of extra uterine—a previous operation, leaving adhesions to form obstructions in the other tube. Another cause is appendicitis.

With the symptoms which I have described, you have a history of previous attacks of appendicitis. That is a great help and makes a very powerful factor in clinching your diagnosis. Appendicitis, with local peritonitis, causes adhesions around the tube, and leads to extra uterine pregnancy.

Dr. Royster: I am very glad indeed that Dr. Hunner referred to removal of the other tube in operating for extra pregnancy. A similar experience of mine led me to that determination in a case in which I operated again on the same patient within eleven months for ectopic pregnancy on the opposite side.

Besides the reason that Dr. Hunner gave, we know that chronic salpingitis has been the cause. If one tube is diseased the other one is very apt to be. The loss of cilia in the tube, kinks, thickening, and such things are nearly always apt to be on one side as well as on the other. I may be pardoned for a description of my personal record as to why I have been interested in this subject: During my hospital residency in 1895 we had six cases, and since that time I have had thirty-seven cases, three of whom going full term, one combined with an intra-uterine gastatian and one on the opposite side, so I may say that my experience has been sufficiently large to justify my interest.

The important thing for me in the diagnosis of ectopic pregnancy is the history of the case. I do not mean to say

by that that you are going to get a typical anamnesis in every subject, but I think more important often than the actual physical examination is the history. You don't always get the history of the cessation of the menses, with suspicious signs of pregnancy, pain and discharge of decidna; you may not get the history of a long period of sterility before it, but there will be something to call attention to the fact that the woman is pregnant and not normally, and that will justify you in making an examination. The history must not be neglected. The diagnosis is often very difficult from pelvic abscess, normal pregnancy, acute hemorrhage into the ovary, and ordinary abortion or miscarriage. All of these things have been mistaken for extra uterine. Especially is it necesray to call the attention of the practitioner to the fact that so many cases of miscarriage will blind your eyes to the occurrence of an ectopic pregnancy, because they so often at first pursue the ordinary method and the doctors do not even make an examination. There may be people smart enough in the world to tell what is the matter with folks by looking at them, but the average doctor isn't able to do so—at least he should not think himself able to do so.

Dr. JULIAN, Thomasville: I am delighted to hear this paper from Dr. Long, and also expressions from Drs. Hunner and Royster, and I am glad that they are satisfied that the examination is not so easy in ectopic pregnancy.

I had a case two years ago. I was not the family physician, and called to see the husband of the lady who had an ectopic pregnancy. While I was there, she had a pain in the chest, and I administered a hypodermic of morphine to her. The next morning I was called back to see this lady. She had pain in the left abdomen, no fever, no shock, pulse a little accelerated, and I attended the lady for two weeks—no peritonitis, and at times I thought that the case was almost hysterical, there was such extreme pain; it seemed that nothing could help it, and I occasionally gave her morphine

to quiet her. I then called Dr. Stokes, of Salisbury. We examined the case thoroughly, examined the breasts, found them just a little darkened, the uterus empty, menstruation had been regular, only five months married, we found a little enlargement on the right side of the abdomen, we opened it and found a tremendous mass of blood, the appendix was bound down to the left side, the mass was so great we had to make a second incision of the median line and found the most fearful ectopic pregnancy. The patient died next morning.

There was not a symptom of ectopic pregnancy, except a little bulging in the right side.

What makes this case of such interest to me, the patient was very near and dear to me.

I had a case before that that I operated on myself—an eight months' pregnancy. The doctor called in consultation gave no history of pain, none of shock. It was just as I said, that the symptoms of ectopic pregnancy are capricious, and you can not depend upon the ordinary diagnosis.

Dr. W. P. Whittington: I have enjoyed the Doctor's paper very much. Before I forget it I want to say to Dr. Julian that while we are often tempted to relieve the pain that is racking the patient, that morphine is very often a very deceitful remedy—at least to use when we are called to see a patient suffering with an ectopic pregnancy—or pain anywhere. I have known doctors to make serious mistakes in the diagnosis of appendicitis—simply because they have relieved the pain with morphine, and the reflex nervous system has misled them in this way. Now, the doctor acknowledges he had a fearful condition of ruptured tubal pregnancy in the abdomen of this woman. Now I know I have made mistakes, but do not think the Doctor should have made that mistake.

Dr. Julian: When we got into the right side of the abdomen the mass was extended all the way over across the

abdomen, and I contend that no physician and no surgeon could have made out the diagnosis, because the mass was entirely over the abdomen there was not a particle of peritonitis, and the mass extended all the way nearly to the left side, but the appendix was bound over to the left side, and only at this late day could we detect the mass in the right side. It was not solid, and was filled with blood clots, and that was the reason of the mistake. After consultation we were afraid then to go in, and the symptoms were so vague and this mass of such little prominence, we were surprised, when we made the second incision we could hardly get up to ....., and I think the Doctor will certainly understand that it was not an avoidable mistake.

Dr. WHITTINGTON: I accept the explanation of the Doctor, but I still believe that his hypodermic of morphine misled him in making a proper and early diagnosis of the case. Dr. Hunner has said the diagnosis should be made early; Dr. Royster also desires an early diagnosis, and acknowledges the difficulty of making it. I want to impress (as I have upon this floor before) upon the minds of the regular practitioners and the surgeons, that a thorough examination of all cases be made where pelvic trouble is suspected. I know that women all over the country have lost their lives because doctors have had their minds diverted from the real trouble by other things, and they have put them off by a few doses of medicine, and in this way have failed to make a proper diagnosis and have lost their patients for want of an operation at the proper time. So the most important thing to do, is to make an early and thorough examination and emphatically impress the patient with the convictions that you have before you, and operate as soon as possible. By this means we will find a great many more ectopic cases than we have in the past, and will do a great deal more good in consequence thereof.

Dr. Long: Unfortunately for me I was called to the 'phone while Dr. Hunner and Dr. Royster's discussions were in progress, and so missed what they said. I am sure whatever they said was correct, because they are both skilled and competent gynacologists, but I can only say this, that I believe that the reason those of us who do abdominal and pelvic cases find these cases so often, is that we not only go into the history but make a manual examination of the abdominal and pelvic organs, and I think the more systematically we practice and examine these organs, the more readily will we detect any kind of a change, whether ectopic pregnancy or not.

I thank the Society for the discussion of this paper.

"Post Operative Leucorrhœa." Dr. C. M. Strong, Charlotte. (See index for paper.)

DISCUSSION.

Dr. Hunner: It seems to me that this subject ought not to go without discussion. The essayist has aptly likened leucorrhœa to Banquo's ghost that will not down.

The Doctor speaks of leucorrhœa as being post operative. I must say that I have never had experience with leucorrhœa post operative per se, or that I would ascribe in any way to the operation, or to after results of the operation. I should think that most of these cases he mentions must have had leucorrhœa before. In other words, they have an endometritis or a cervicitis. Therefore, I would say that one should be very careful in making a pelvic examination of any kind to make a thorough examination of the cervix so as to be able to treat it if necessary while the patient is under the anæsthetic. Most leucorrhœa is due to cervicitis; therefore if you are operating for some other condition the thing to do is to carefully examine the cervix before hand, and if you find the dilated cervical glands and the congested appearance, the thing to do is to amputate the cervix during

the operation—thus removing the cause of leucorrhœa. Of course there are cases of vaginitis that occasionally give rise to leucorrhœa.

The Doctor has spoken of leucorrhœa after the menopause as being due to endometritis. I think careful examination will show him that there is very little or no discharge from the uterus, but that it comes from the cirvex, and from the senile vagina, due to loss of the epithelium and exposure of the blood vessels such as occurs at the manopause. Of course we get a little leucorrhœa from weakness or from a rundown condition even in an otherwise healthy woman, and following an operation a woman is more apt to have such a discharge until she fully regains health.

The Doctor's point about removing pus tubes is a good one. Make the two incisions extend into the uterine body, taking out the entire tube. Unfortunately that does not cure the gonorrhea in some cases, as the uterine and cervical muscosæ are infected and continue to throw off the leucorrhœal discharge.

On motion, a recess of the general meeting was ordered, and the annual conjoint session of the State Board of Health with the State Medical Society was held, President Thomas presiding, and the hall being well filled with the members of the Society who participated freely in the discussion.

(See index for report of Board of Health, and discussions.)

Wednesday Afternoon, May 30.

The Medical Society re-assembled at 3 o'clock, with the First Vice-President, Dr. L. B. McBrayer, presiding.

Program of the morning resumed, Dr. M. A. Royall, of Yadkinville, reading first paper:

"The Curettement of the Uterus." (See index for paper.)

"Vesical Calculi in the Female." Dr. A. M. Caviness, Wakefield, N. C. (See index for paper.)

"The Open and Gauze Method of Administering an Anæsthetic." Dr. Wm. Moncure, Raleigh. See index for paper.)

DISCUSSION.

Dr. L. E. Holmes, Biltmore: Personally I find it necessary to use a great many layers of gauze. He says from "6 to 12." If it is coarse gauze it takes from thirty to forty layers. That sounds a great many, I know. It is certainly the most cleanly, the simplest and the most satisfactory way of giving an anæsthetic. The more I see of it the more I like it.

Dr. Moncure: First, in regard to the number of layers of gauze used: I modified that by saying the numbers of layers used were to be guided by the closeness of the mesh of the gauze. Some gauze has a very wide mesh, and, of course, it takes a good many more layers of it, while the closely woven gauze would take less.

As to chloroform and ether: I prefer ether, but have given chloroform on numerous occasions, and have never known of a case of blistering either in the nares or in the lips. I have never seen any ill effects, in my own experience or that of my friends. It is very largely used in the clinics in Philadelphia. I have never heard of a case of chloroform or ether blistering. I think in chloroform the anointing of the lips with glycerine avoids the blistering, in a great measure. The gauze being raised in the center, so as to form a tent and the drops being allowed to strike on the highest point, the evaporation takes place in the mesh of the gauze, and the vapor is inhaled directly into the nares, or into the mouth, if necessary.

"Serum Therapy." Dr. T. G. Hamrick, Caroleen. (See index for paper.)

DISCUSSION.

Dr. M. E. Robinson, Goldsboro: Laryngitis is really membranous croup, and my experience is that I have never

lost a case of pseudo-membranous croup, since I have had the serum. Before that I lost nearly every case. I think the doctor starts out with too small a dose. He says in his paper: "The danger was in giving too little and not enough." I have had some patients just look like they would die any way, but have pulled them all through since using the serum. I have given as high as twelve thousand units. I guess that that was the experience of nearly everybody in the house before they used anti-toxine—that a physician never had more than one case in his practice to get well. That has been my experience. Since I have used anti-toxine, however, I have never lost a case.

Dr. Faison: The serum has been a question of very great interest to me, so has diphtheria and its causes. Diptheria is, of course, we understand, a local disease, caused by Lœflers bacillis. In the past few years it was discovered that this serum therapy was the treatment, and this fact today is an established one; it is looked upon by the leading men in the diseases of children as a specific against the poison produced in the system by the Lœflers bacillis. I don't understand exactly what Dr. Robinson means when he talks about pseudo-membranous diphtheria. If he means a true membranous croup or laryingeal diphtheria, all well and good, but if he means pseudo laryingitis, there is no special need that he use this serum at all. He has made the point exactly right, in my opinion: that the doctor who read the paper failed to realize the fact that he had a specific in his hands, and that he failed to give his children the amount of the serum thereapy that was necessary to combat the toxine that had been produced by the bacillis, and the toxine being stronger than the anti-toxine, of course his children died. Now, gentlemen, you need not be afraid to give this therapy with bold hand and in big doses. It is an established fact that the sooner the patient is seen and the sooner the patient is given the serum, the greater and more profitable will be

the result. There are very few children to-day who have a case of diphtheria (not membranous diphtheria) in which this serum is used in twenty-four hours who do not get well. It is an established fact that membranous croup, as it is called, is only diptheria in the larynx instead of in the pharynix. There is no question about that. But being more dangerous, the swelling and the obstruction of the larynx makes it imperative to give larger doses while it is an expensive remedy, if there is a doubt in your mind that you have a false croup or a true croup, always give the anti-toxine in full doses. I wish that it was so, that the men who are making the anti-toxine could get it down within the range of people who are not able to pay for it. When you talk about giving a poor man a dose at eight or ten dollars a dose, you knock the desire for it out of him. I do certainly hope that the time is coming, and if nothing else can be done, the time ought to come when every State ought to make its own anti-toxine, that her poor can have anti-toxine at a nominal fee, and if it is necessary for the State to go down in her pocket and take her money for it, I would advocate it at the expense of something else, because when a doctor knows the death angel is hovering around and the child is going to his grave without this anti-toxine—without it I feel helpless—then he feels the necessity for such measures. I think the State ought to produce an anti-toxine that would prevent her poor people dying, because there is no State that has not poor people in it, and any doctor who does not treat poor people ought to quit practicing.

Dr. A. S. Rose, Fayetteville: I agree with Dr. Faison. They had sixty-five cases in my county in four weeks time. I used anti-toxine in a very large percentage of the cases, in every case a good many times, oftentimes against the wishes of the parents, but I stated to the parents at each time if they refused to allow me to use the anti-toxine I would not take the case. I used it in the majority of the cases and

lost four—two from paralysis and two from chronic asthma. One case was three days old when I saw it. It was a very marked case of laryngitis, in which I used 16 thousand units anti-toxine in first forty-eight hours, but that case was three days old when I saw it. That case was in a young man nineteen years of age. He died on the fourth day, and I want to urge, especially in the future, the necessity of the early administration of the anti-toxine, because I believe there is more damage done in the first twenty-four hours of the disease than in the whole disease.

Dr. Coppedge: What Dr. Faison has said about the high price of anti-toxine is something we can not help now. Often we are called to help poor people who can not buy the anti-toxine, and sometimes the doctor can not afford to buy it, even if he were so charitably inclined. I have had some experience recently with another remedy. I had a case of diphtheria in a family who were not able to buy anti-toxine. There were two children in the family—one about sixteen months old had diptheria, the other did not have it at the time I was called. They had been sleeping in the same bed together, so it was very likely that the second child would have had it if something was not done to prevent it.

I didn't feel like buying the anti-toxine, and experimented a little. I gave calcium sulphide, and the child got well, and the second child didn't take it. I also gave calcium sulphide to the other members of the family, and none of them had it. I am certain it was a case of diptheria, but didn't make a bacteriological diagnosis.

As to the other cases: I think the great trouble in the laryingeal case is that the larynx is so poorly supplied with blood vessels. I have found that while we were waiting for the anti-toxine to act, in the laryingeal cases I have gotten very good results in relieving the dyspnea by the use of tartar emetic in what would seem to be dangerous doses. I have had two cases of laryngeal diphtheria recently, and

while I gave the anti-toxine pretty freely I had to give something to relieve the dypnea while waiting for the anti-toxine to get in its work. I got very good results from the use of tartar emetic.

Dr. T. G. Hamrick, Caroleen: I want to say, Mr. President, I thoroughly enjoyed the discussion of the gentlemen, and I cheerfully accept the criticisms with reference to the doses, and I feel satisfied myself that my own mistake was in using too little of the remedy. I want to thank the gentlemen for the interest they have taken in the subject.

The President: Gentlemen, it is customary, when the obituary is ready, for the Obituary Committee to read the report. Dr. Poole is Secretary of that committee, and if there is no objection we will hear the report of that committee.

Vice-President: Mr. President, I know if there is anybody in heaven, it will be the physician, but I notice that Dr. Poole's report is exceedingly lengthy, and I move that the report be accepted without further reading, and be referred to the Committee on Publication, without further reading.

The President: I will state this same question has come up before, and it has always been the rule that the report be read in full.

Vice-President: Then I withdraw my motion, sir. I did not know that.

Obituary report presented by Dr. C. M. Poole. (See index for paper.)

Dr. G. T. Sikes, Grissom: Mr. President, I don't want to take up the time of this Society, but I want to say my heart goes out to the families of these departed loved ones. I knew most of them myself, well, and I can heartily say I sympathize with their families, but especially do I want to

say a word about Dr. Cozart, a man of my own county, with whom I was well acquainted, and I want to say of that good man, while he is gone from this land to the land of the unknown, that I doubt if ever a bigger heart was placed in the body of any man than in the body of W. W. Cozart. I doubt if any man ever had a deeper nature or more sympathetic disposition, or was more ready to give his time for the relief of pain than he was. He would sit by the bedside of his patient during the whole night, would remain over all next day, and would actually leave his work at other places for some other physician to look after in order that he might sit at the bedside of his beloved patient. He never asked a man, it is said, for a dollar, and yet so great was the man that he made a comfortable living out of his profession. Those who knew him best, loved him best. I wish to say something fitting to the memory of this great and good man.

"Belladonna: A Study of One of the Common Drugs." Dr. R. E. Mason, Charlotte. (See index for paper.)

Dr. Coppedge: I don't think any of us can have anything to say in regard to the length of the Doctor's paper. It takes a long time to discuss a subject of that kind, but in describing the physiological action he said flaxen-headed blondes are susceptible, but he doesn't say whether those who are not flaxen-headed are susceptible. I would like for him to enlighten us on that point.

Dr. Mason: I thank you very much, gentlemen, for allowing me to get through with the paper. It is a favorite drug of mine, and when you get started on it is is hard to stop, but in reply to Dr. Coppedge: The more blonde you are, the more apt you are to be affected. That is about all there is to it.

"Immediate and Remote Influences of County Medical Organizations." Dr. J. C. Grady, Kenly. (See index for paper.)

"Arthritis Deformans." Dr. L. E. Holmes, Biltmore. (See index for paper.)

"A Plea for More Frequent Autopsies in Private Practice." Dr. J. P. Monroe, Davidson. (See index for paper.)

DISCUSSION.

Dr. CROWELL: I would say that we need not attempt to add anything of value to what Dr. Monroe has so very aptly said in his paper, yet this is a subject of so much importance to us all, not only we as physicians, but to the laity, to the other man who has the diagnosis, that I feel that I would not do myself justice did I not say something if it is only to emphasize what he has said. Now Dr. Monroe's paper brings out the necessity of performing autopsies. I performed some few, general few, when I was in general practice, and I know wherever there was an autopsy made in one neighborhood, I had absolutely no trouble to get another —in fact, the country people (and I say country people, because this paper applies more to the country practice), seem to want you to do this autopsy. After you have one time done this in the neighborhood they may not come out and say: "Doctor, I want you to do this," but if you do not make advances they will certainly do so. When we do one autopsy we have a great number of cases. I remember a very (to me) interesting case: I do not know what was wrong with the patient—it was a negro child. I had seen it two or three times. I was a great deal younger then than I am now, and knew quite a good deal less. I didn't make a positive diagnosis. I made a hypothetical diagnosis, and rendered such to the family. I told them, I think, that I thought the child died of worms." The autopsy, according to my conclusions, proved the child died of typhoid fever. In a short time I had another negro child to die in the same neighborhood, about seven miles from this place, and I had absolutely no trouble in making an autopsy. Of course all the negroes

in the country were there, and the white friends, and, as Dr. Monroe wrote in his paper, they really enjoyed the autopsy more than the doctors, where it was made in anything but pleasant surroundings to myself. I had no one to help me but an old negro woman.

We have had in this State not long since occasion to almost bring shame upon our heads as members of the medical profession. We had a man in this State (I am not speaking to criticise any one at all. You all know to whom I refer) where the poor soul was wafted out into eternity. The jury said to the man, "You go to the penitentiary for an indefinite time." That soul that went out carried back that secret to the place from which she came. I say that no living man knew who killed that woman. It was so brought out, according to my ideas, in the court which tried this man—a member of the noble medical profession, and according to the newspaper accounts nobody knew what killed that poor woman that to-day lies in her grave. Gentlemen, that is a case for you to think about.

"Where the Tides Meet." Dr. H. S. Lott, Winston-Salem. (See index for paper.)

The President, Dr. McBrayer: The tides of medicine and surgery have met, and so skillfully were they guided by the steady hand of Dr. Lott, that there wasn't even the ripple of a wave to mark the meeting place, but it was more like the gentle meeting of the ruby lips of a fair maiden with those of her lover. This is pictured by the Doctor as it should be.

I know you have all enjoyed very much the exccellent paper of Dr. Lott. Do I hear any discussion?

Motion to adjourn until 8:15 p. m.

WEDNESDAY EVENING, May 30.

The opening session of Wednesday evening was called to order by the President.

Dr. James M. Parrott, of Kinston, delivered the annual oration. (See index for paper.)

Dr. Thomas S. McMullen, of Hertford, delivered the annual essay. (See index for paper.)

"Washing the Hands." Dr. H. A. Royster, Raleigh. (See index for paper.)

"The End Results, Mental, Physical, Psychical, After Ablation of Certain Structures and Organs of the Human Body." Dr. J. E. Stokes, Salisbury.

DISCUSSION.

Dr. GEORGE W. LONG, Graham: I think that surgery has now reached the point by our specialist who has spoken to us this evening, and reported such an immense amount of work and such a small percentage of mortality, that it would be well for the profession to recognize the fact that medicine and surgery are not to be divorced, and that an operation of election is almost without danger. The day has passed when we are to wait for the patient to be nearly dead before we take him to the surgeon.

I do not know of any literature directed specially to this subject, but from the practitioner's standpoint, if I were called upon to speak, I would be compelled to dwell upon the great importance of accurate observation, diagnosis and simplicity in prescriptions. The use of knowledge, of the physiological action of medicine, is essential. There has been a transgression in the physical economy somewhere. It is often asked whether Nature is another name for God. His Providence comes in and unites with medicine, and if these operations are done in time, then they are perfectly without danger, and it does seem to me that the profession ought to make a study of their cases and always, ever and

anon, be in touch with some master who can meet the situation as it is.

Dr. Robinson, of Goldsboro: It is now half-past ten o'clock, and I understand that we are to go to a banquet to-night, so I make the motion that we adjourn until nine o'clock to-morrow morning. Motion carried.

(See index for report of Annual Banquet.)

Thursday Morning, May 31.

Society met at 9:30 with the President in the chair. The program of Wednesday was continued.

"Gall Stones and Diseases of the Gall Bladder." Dr. Henry F. Long, of Statesville. (See index for paper.)

DISCUSSION.

Dr. Templeton, Cary: I regard that paper of such importance (if second to any at all), only second to the very able paper we had yesterday on Extra Uterine Pregnancy. These diseases are of that character that lie on the boundary between surgery and medicine. They are diseases that the general practitioner meets every day nearly, and the discussion of it by Dr. Long has been very interesting to me, indeed. I am satisfied that I have seen a great many cases of indigestion, gastritis and various other diseases of that kind that produced gall stones, and I did not know it. I think it was Mr. Bill Arp, the author, who, Sir, by the way died, and they didn't know until about the time he died that he had thirteen hundred gall stones in his bladder, and they were treating him for something else. This is a very important matter, in my mind, and I thank Dr. Long for the information he has given us on that point.

Dr. Faison: This happens to be a subject that is peculiarly interesting to me just now, because I happen to have been the unfortunate victim of just such an occurrence.

It is a peculiar fact that in almost every case that Dr. Long has reported here they are cases in which he gives a clinical history of typhoid fever. It seems to be a very general sequel to typhoid fever. In my own case (and I speak of it because I can speak very authentically of it), I had this fever in the year 1872. So far as I know from that time up to eight years ago I had a good digestion; I ate a plenty for a man who had a good digestion, but I gained too much flesh, and I knew at the time that there was something wrong with my digestion somewhere, but what it was, I didn't know. Doctors are of that peculiar frame of mind, that they do not like to think about bad things when they are concerned themselves. Up to eight years ago I had had no intestinal colic of any description—in fact, I didn't have any idea that I could get sick, I had been well so long. About eight years ago I began to have an occasional attack of colic, which I always (to get out of it in an easy way, as I stated) could trace to some act of indigestion, or trace it to some meal that I thought was the direct cause of indigestion, gastritis or gastralga. That pain was never, during my whole time of this colic, referable to my liver. So far as my own mind was concerned, and my own physical condition, I didn't realize that I had a liver. That pain was always two inches below the ensiform cortelage in the medium line, and it was invariably in the same place, and the same kind of a pain going on until I was forced, every attack, to take a dose of morphine. I never got out of taking a dose of morphine. The first few attacks I don't recall that I had any symptom of jaundice, but in the last four or five years I had the jaundice. I, however, satisfied myself by always accusing the morphia of producing the jaundice. Now, I am giving you the history of this case as I gave it to my good doctor when I went to Johns Hopkins. Sometimes I would have an attack once a year, sometimes twice a year, sometimes the attacks were once in two years, but in January of this year,

under a strain of some sad sickness that I had, I became weaker than usual, and the night before this attack came on, I ate two very small pieces of cheese, with a piece of cold beef. Next morning at 10 o'clock I had this pain, and I accused the cheese and the beef with giving me the colic. I had a very serious colic, and it took a grain and a half of morphia to relieve the pains. It locked up the secretions, and I had a very serious form of ptomaine poisoning. For two weeks I didn't retain a single thing in my stomach, either to eat or to drink. I had fever for the first time, and beyond that I had acute traumatic Bright's Disease. I had all of the symptoms as to albumen, scanty urin, casts, blood, granular, in fact, anything, everything that indicated acute Bright's Disease. I felt the drowsiness of death coming over me, and I told the doctors if I went to sleep I was a dead duck. They put me in a hot bath. After that I rallied, and in a few days was on the street. After two weeks I had another attack of colic, which I accused to some other indiscretion, but now I know better. This jaundice never left me from the 20th of January to the 29th of April. After that I consented, in my own mind, to go to John Hopkins Hospital. I wrote to my personal friend, Dr. J. M. T. Finney, of Baltimore. I told him I didn't know what was the matter; I wanted to go there under his care, and if he decided that my case was surgical, then I wanted to put myself under his care; if he didn't think so, then whatever he suggested I would do, or whoever he suggested I would go under his care. When I got to Johns Hopkins he had everything prepared for me. After two hours I was introduced to the brilliant Dr. John Carr, of Durham, the son of one of the best friends of the medical profession that I had in North Carolina; also a man from Boston—Dr. Thayer. They came to see me about 1 o'clock, brought all of their knowledge to bear, and I begged them to take all of the time they wanted to give me a diagnosis, and whatever they said was the mat-

ter, then I would submit to anything in the world. After testing my stomach and testing everything on Sunday, Dr. Thayer gave me their diagnosis. By exclusion of other diseases were forced to the conclusion that it could not be anything else but gall stones of the gall bladder. Dr. Finney then took me under his care, and on Tuesday morning operated, finding I had a bladder with twenty-five gall stones in it, and not only that I had a deformed liver. The edge of it had been turned up and I suppose the turning up of it produced a staisis so that the bile liquid was absorbed, and the dry part of the bile was left with the result of making gall stones. There was never any chill, therefore they expected to find that there was no gall stones in the duct, and there wasn't any gall stones in the duct, but it was a distorted gall bladder that had brought about this condition. Dr. Finney in his wisdom (and his wisdom along these lines is of the first order) destroyed or extirpated my gall bladder and made a continuous duct, took all of the gall stones out and sewed up the wound, except about an inch, I suppose, with the drainage down to the gall bladder in case anything should go wrong. On the fourth day my friend, Dr. Carr, took out this drainage and nearly pulled out my liver, and hurt me terribly. After that there was no further drainage or incision, granulation set in, and on the 15th day after the operation my wound was sufficiently healed that the doctors agreed that I was well enough off and safe enough to come home, so on the 15th day after the operation I was on my way home in the sleeping-car. I have been home for a week. I followed Dr. Finney's directions to be "a good little boy" for a week and stay home. I have been gaining since I have been home and out in the air, about a pound a day. I eat enough for a man who has been in the corn field at work; my bowels act regularly; I sleep well; I feel a free man. Because of the doctors' word (which I have unbounded confidence in), that after the operation I need not fear gall stones during the balance of my life.

Dr. John Carr, Johns Hopkins Hospital: After having the pleasure of seeing Dr. Faison through his attack, I would like to say a few words. His case was not absolutely typical, although the diagnosis was made before operation of gall stones. The systic duct was pressing on the common duct. Of course in a man of his age a possible malignancy had to be considered and was considered, and while the physicians in charge were sure that gall stones would account for his symptoms, still it is known that gall stones and malignancy can not always be differentiated. Even though the symptoms may be typical of gall stones it is not infrequent that, upon operating, the surgeons find a malignant growth. So positive were we that he had gall stones that malignancy was not dwelt upon. Upon operating the gall bladder was found to be packed with gall stones of various shapes. The bladder showed evidence of chronic cholecystitis—being contracted, and it was decided that it might be a menace to him in the future, and was removed. I am very glad to say there was no evidence of malignancy found, and I think Dr. Faison a good example of surgical results.

Dr. Faison: I would like to say that he assured me most positively, before the operation, that it was not malignant.

Dr. Hargrave: During my experience at the hospital I was fortunate or unfortunate enough to have a little attack of indigestion. I was working under Dr. Tiffany and called in Dr. Martin, his right-hand man, and he diagnosed my case as acute cholecystitis. He took me into the hospital, placed hot applications over my stomach and talked of an operation. Well, they kept me in bed for ten days, and Dr. Tiffney came around and said, "Well, we will for a few days hold on." They held on and I wasn't operated on. I was never jaundiced, but I had pain in the median line just below the ensiformed cartilage. When I left I was very weak and went to the seaside and stayed for a couple of weeks and came back and went to work. The next year I

came back to the old home and had another attack, which, from the learned physicians, I thought was an attack of cholecystitis, so I saw Dr. Julian Baker. He said, "You have a case of acute indigestion. He gave me treatment for indigestion, and I went home and was well the next day. The doctors in Baltimore kept me in bed for two weeks, under hot applications, with a nurse night and day; I was scalded like a lobster. I came to North Carolina under our country doctor and he had me out of bed in two days, so I don't know whether to go to a surgeon or to a physician. If it is you, or me, that is a different question entirely.

Dr. Mason, of Charlotte: I think I will have to tell a little joke on Dr. Faison, just to show he was not so courageous. There is a great deal of similarity in our names. A patient of mine, suffering from gall stones, 'phoned me, the messenger mistook the name and 'phoned for Dr. Faison. My number is 428, his is 420. We ought to have them changed. Dr. Faison went out to see the case and looked at it a little bit and said, "You have gall stones, and you had better go to the hospital and be operated on just as soon as you can get there." Now he had his case and was waiting and waiting and waiting and you had just to push him off to the hospital.

Dr. John Carr: Dr. Faison came to the hospital, was operated upon, the gall bladder and stones removed; he is cured. No one knows that this man recovered from the attack. No one knows but what he is going to have another attack. Another thing: I don't want to have Dr. Faison think he barely escaped. At the same time, malignancy was not present in his case. Dr. Thayer told him it was not malignant. In a private conversation with me he said, "I am afraid we are going to find malignancy."

Dr. Hargrave: What I want to say is this: I believe in it; I took the surgical side, and I am a believer in surgery all the time; but I just meant to say that I believe Dr. Faison said I did have a case of cholecystitis; my second attack may

have been the same thing; I may have a gall stone, but I just spoke as I did to show that there were two sides to a question—to a diagnosis. A surgeon always finds a surgical case and a country doctor (of which I am one) does not. I don't think that every case of appendicitis needs an operation. I have seen them put to bed in the hospitals and go out without an operation, but they are always advised to come back for an operation.

Dr. Long: I thank the gentlemen very much for the discussion.

Dr. Way: I desire to introduce to this Society Doctors Furman, of Greenville, S. C., and Dr. E. A. Earle, of Greenville, S. C., and move that we extend to each of them the privileges of the floor and debate. The motion was carried.

"Present Status of the Treatment of Cancer." Dr. Witherbee, of Charlotte. (See index for paper.)

Dr. McBrayer, of Asheville. (See index for paper.)

Drs. Witherbee and McBrayer's papers discussed together.

DISCUSSION.

Dr. Whittington: I only wish to make a few remarks in relation to these two most excellent papers, and these remarks will be most particularly directed to early diagnosis and prompt treatment. I think that these are the keynotes to the cure of all malignant diseases. I was very forcibly impressed with the remarks of Dr. Witherbee in reference to the Rodent ulcer and the irritated wart. It is too often the case when we are consulted about these little ulcers on the face, that we are inclined to say, "Oh, let it alone. If it don't bother you, you don't bother it, and when it does get to bothering you let me know and I will attend to it." When an open ulcer remains on the face for a few weeks and doesn't get well, the thing to do is to cure it at once. This can be done by the proper application of paste or the X-Ray. These

cases are nearly always malignant and lead to all the evil results of malignancy.

In reference to the schirrus carcinoma of the breast, we find that these cases taken early, before the glands are involved, are almost always cured by the X-Ray. We had a case referred to us by a doctor from Ohio, a lady who had cancer of the breast for two years, of a schirrus character; the sore was probably as large as a hen egg, and the tissues seemed to be in a malignant condition almost down to the ribs. The patient had been advised to have the breast removed by amputation, but refused to do so. She came to us and we treated her with the X-Ray. I wish every physician here could have seen that case. The X-Ray simply peeled out the schirrus growth and left a nice, smooth, little opening almost as if you had peeled the egg out of a shell. In a few months that was perfectly healed; the woman had gained several pounds; her general appearance was better, and she is now well and at home a happy woman. I do not believe in these cases it is always necessary to amputate the breast. Where the glands can be removed easily, I think it is better to do it, in fact I am sure that it is, but without the use of the X-Ray, after the glands are involved, the operation of removing such glands as can be removed, is almost practically useless.

I wish to again impress upon this Society the importance of early diagnosis. Don't put off these cases when they begin to give you trouble, but treat them in their incipiency.

Dr. J. F. Swan: I would like to ask the Doctor to go a little in detail, for my own information. I wish to ask him to give us in detail the best method of the usual operation. I confess I haven't used it, and I would like to ask if you use carbolic acid and his results from it.

Dr. Annie L. Alexander, of Charlotte: There is one point I would like to take issue with Dr. McBrayer on. He suggested in nearly every case, after the menapause, to perform hysterectomy. We have cases of senile endometritis

where there is a foul smelling discharge. I have in mind a lady who came into my office who was past sixty. As soon as she came into the room I made a diagnosis of cancer. I made an examination, and there seemed to be nothing except leucorrhœa, no enlargement, no displacement, and by manual touch it seemed to be a normal uterus. I advised curettage. She refused every operation that I suggested, and I put her on douches of creolin, and in six weeks the woman was well. That was ten years ago and she is still living.

Dr. Brooks: My experience has not been as large as Dr. McBrayer's. Some cases, when they first manifest themselves, are extremely malignant. I am also inclined to think that the Doctor's statement as to cases of foul smelling leucorrhœa does not always mean a hysterectomy should be performed. I agree with him in his paper, and think there is a good deal of truth in it, but I think he is a little too optimistic. I don't think all cases of cancer can be cured, no matter how early you take them or the degree of the malignancy.

Dr. Witherbee: I wish to compliment Dr. McBrayer for the paper he has just read, and to impress you with the fact that pressure on any malignant growth (especially those that are spread by way of the lymphatics) must free cells from the original tumor and send them out into the various lymphatic glands in the neighboring tissues. This fact has been and still is overlooked by many surgeons. In examining a case the first object of the surgeon is determine to what extent the tissues have been invaded by the cancer, and also whether it is adherent to the deeper structures. This is done by a series of manipulations which cause an increase of pressure in the original tumor, thus setting free myriads of malignant cells into the surrounding tissues and lymphatics. The operation is then performed, and instead of leaving an open wound to facilitate the drainage of the lymphatics which are over-crowded with cancer cells, the wound is closed and

primary union of the skin is obtained. The cells remaining soon develop and recurrence is inevitable. Now, if the examination is done carefully, the wound left open and the X-Ray applied while the wound is healing, it seems reasonable to suppose that the pathological cells of the tumor have not been dislodged, and that a large proportion of those cells that remain in the lymphatic vessels are carried out by the free drainage of the open wound and also by the use of the X-Ray the cells that still remain may be destroyed so that by these means the percentage of complete cures in this unfortunate class of cases may be greatly increased.

Dr. McBrayer: I thank the doctors very kindly for their discussion of this paper; and I wish to reply to a few things that have been said. In regard to the composition of the cancer paste, I would say that the basis is arsenious acid, and is used in different strengths, according to the process you wish to produce in a given case, and those things can all be found in certain text-books—in fact, the *Medical Record* at one time, a few years ago, gave the composition of all the different pastes and caustics used in the treatment of cancer, beginning with the herbs that are used by the cancer quacks to more or less good effect. I believe that the leaves of sheep sorrel have cured cases of superficial epithelioma.

In regard to the surgical procedures: As I remarked, they are not to be discarded and never will be, and in the removal of cancer of the breast, uterus, extremities when far advanced, and things of that kind, we always use them, as the Doctor remarked, more to save time. You can cure those cases with the X-Ray, as we have done, but surgery saves a great deal of time and expense to the patient. The case that Dr. Whittington referred to was a pleasure to contemplate. It required six months to remove that tumor, as large as a goose egg, from the breast. If the patient had taken our advice and submitted to the removal by the knife, she would have gone home just as well in two months and probably with less

expense to her; but she didn't choose to take our advice along that line, and I was really very much pleased, because I wanted to see the result of the Ray, and the scar is very much less noticeable than it would have been had we removed it with the knife.

In reply to my friend, Dr. Brooks, I wish to say that cases of cancer do not appear like fulminating forms of appendicitis. Now it is unnecessary for me to go into the question of fulminating appendicitis, as it is familiar to you all, but you know it comes on like a cyclone and kills your patient, no matter what you do or do not do. But cancer does not come that way.

In operating upon a certain case, we cut wide of the diseased area; we went into the healthy tissue for two inches, but in four days every stitch hole was weeping with the cancerous process, and yet, with the X-Ray, that patient was cured. That is malignancy. When we get a case that is so malignant, we don't expect to cure it every time. That case, though, was not malignant, at the beginning. Five or six years before that a wart on the gentleman's chest began to grow, and it became angry and he was alarmed and consulted the family physician, and the physician said, "Don't be alarmed; don't bother about it." He ought to have cured that; it could have been done easily. It grew larger and larger and at last he consulted the family physician again, and he happened to be a surgeon, and he said, "No, I won't treat that." Then he applied to the quack, because he didn't know anything else to do, and the quack applied a plaster with a wooden spatula, and he kept applying that, and he took out what he thought was all the cancerous process, which was followed by this malignant condition. We don't have those fulminating forms of cancer to begin with, and I am satisfied that they can all be cured at the beginning.

Now, in regard to the foul smelling leucorrhœa, I feel like this, about that; in law (of which the doctor is supposed to know nothing, and the lawyer very little more), it is said that

it is better to let ninety-nine men who are guilty go free, rather than to punish one who is innocent. Now it is possible that in some cases, as the doctor has mentioned, that a foul smelling leucorrhœa after the menopause is not malignant, but there is very little danger in hysterectomy, and that will cure the leucorrhœa, and if it is malignant and you wait until you can diagnose it by the microscope, you had just as well shoot your patient, because it will probably be too late to cure by hysterectomy at that time.

If you operate and find it was not malignant, you don't know but what it might have been a few months later. You have done your patient no harm, when if you wait until later, you have probably passed the golden time when she could be cured. I believe it will be considered in the very near future by the profession throughout the length and breadth of this broad land of ours, that all cases of cancer, regardless of the kind, really can be cured, if taken in time, and I am sure that you will agree with me that all of them, if left alone, will destroy the patient.

One other word in regard to the surgical treatment: I believe that in the near future these mutilating operations for cancer of the breast will be discarded. I don't believe it is necessary to use four hours of time and 160 hemostatic forceps in removing everything that a woman has on her chest, from the clavicle to the ilium. I believe in the near future we will remove what ought to be removed and we will follow it with the X-Ray, and it will do the rest.

I hope that this paper, if it does nothing else, will impress upon you the fact that all cases of cancer can be cured, if you treat them early. I thank you.

"Trepanning with Modern Instruments." Dr. H. M. Wilder, of Charlotte. (See index for paper.)

"Carcinoma of Penis." Dr. Charles M. Green, Wilmington. (See index for paper.)

"Chorea Graviadrum." Dr. J. M. Templeton, of Carey. (See index for paper.)

"Placenta Praevia." Dr. H. H. C. Mills, of Charlotte. (See index for paper.)

"When the Baby Comes." Dr. Cyrus Thompson, of Jacksonville. (Paper read by Dr. Laughinghouse. See index.)

Society here took a recess until 3 o'clock.

WEDNESDAY AFTERNOON.

The afternoon session opened at 3 o'clock, with the Vice-President, Dr. McBrayer, in the chair. The presence of the members of the State Nurses Association, holding its annual meeting in the city, was an enlivening feature. The Vice-President greeted them cordially on behalf of the Society. The program of the morning was again taken up.

"Puerperal Eclampsia." Dr. M. R. Adams, of Statesville. (See index for paper.)

"Eclampsia." Dr. J. W. McGehee, Reidsville, N. C. (See index for paper.)

"Notes on Puerperal Eclampsia." Dr. Raymond Pollock, of Dover. (See index for paper.)

Dr. BEN K. HAYS: I trust you will pardon me for breaking into the regular order of the program, but the President-elect of the Society has been quite ill since his stay in Charlotte. He is in the hall now, but it is hardly probable that his physical condition is such that he can remain during the afternoon, and I move that we suspend the program long enough to install the officers.

The motion was carried.

Dr. Way, the Secretary, presented the list of officers-elect for the ensuing year:

President—DR. SAMUEL D. BOOTH.....Oxford
First Vice-President—DR. CHAS. M. STRONG.....Charlotte
Second Vice-President—DR. J. E. McLAUGHLIN.....Statesville
Third Vice-President—DR. W. F. HARGROVE.....Kinston
Secretary—DR. DAVID A. STANTON.....High Point
Treasurer—DR. H. McKEE TUCKER.....Raleigh

Orator—Dr. L. B. McBrayer, Asheville.

Essayist—Dr. E. T. Dickenson, Wilson.

Leader of Debate—Dr. C. B. Mosely, North Wilkesboro.

Members House of Delegates American Medical Association—Dr. W. J. Lumsden, Elizabeth City; Dr. James M. Templeton, Cary.

Committee on Public Policy and Legislation.—Dr. R. H. Lewis, Raleigh; Dr. David T. Tayloe, Washington; Dr. J. E. Brooks, Greensboro. *Ex-Officio,* Drs. S. D. Booth, Oxford, and David A. Stanton, High Point.

Committee on Publication—Dr. David A. Staunton, High Point, *ex-officio;* Dr. T. M. Jordan, Raleigh; Dr. Wm. A. Graham, Durham.

Committee on Scientific Work—Dr. Wm. DeB. MacNider, Chapel Hill; Dr. H. S. Munroe, Davidson; Dr. David A. Stanton, High Point, *ex-officio.*

Committee on Finance—Dr. J. T. J. Battle, High Point; Dr. Frank Duffy, New Bern; Dr. J. H. Marsh, Fayetteville.

Committee on Obituaries—Dr. R. D. Jewett, Winston; Dr. A. S. Pendleton, Henderson, Dr. F. H. Holmes, Clinton.

Delegates to Miss. Valley Medical Association—Dr. J. Howell Way, Waynesville; Dr. David A. Stanton, High Point; Dr. J. E. Stokes, Salisbury; Dr. Robt. S. Young, Concord; Dr. W. A. Monroe, Sanford; Dr. W. C. Steel, Mount Olive.

Delegates to Virginia Medical Society—Dr. Albert Anderson, Wilson; Dr. H. A. Royster, Raleigh; Dr. H. H. Dodson, Greensboro; Dr. H. F. Long, Statesville; Dr. Isaac M. Taylor, Morganton.

Delegates to South Carolina Medical Association—Dr. Edward C. Register, Charlotte; Dr. D. M. Prince, Laurinburg; Dr. R. B. Hunter, King's Mountain; Dr. J. M. Faison, Mount Olive; Dr. D. W. Bullock, Wilmington.

Members State Board of Examiners for Nurses—Dr. Jno. G. Blount, Washington; Dr. J. E. Ashcraft, Monroe.

Councillor for Eighth District—Dr. J. B. Smith, Pilot Mountain.

Place of Meeting in 1907—Morehead City.

Local Committee of Arrangements for 1907 Session—Dr. W. E. Headen, Morehead City.

VICE-PRESIDENT: I will ask Dr. Hays and Dr. George W. Long to present the President-elect.

Drs. HAYS and LONG, having presented the President-elect, Dr. MCBRAYER said:

It gives me great pleasure to present to the N. C. State Medical Society and its assembled guests, Dr. S. D. Booth,

of Oxford, N. C., whom this Society has honored with the greatest honor within its gift. Dr. Booth, it gives me great pleasure, sir, to conduct you into the office of President. May you live long and be happy, and may your wisdom and learning be brought to the betterment of this Society, and may we all be much better for you having been at the head of our profession during this year.

Dr. Booth:

Gentlemen of the North Carolina Medical Society:—Precedents, which have been long established, have made it a rule that it is not only not usual but unnecessary for the President to deliver an address on his inauguration, for which I am very thankful this evening, for I am not able to make the address. To say that I feel the honor which you have conferred upon me would be superfluous. I have always considered it an honor for any physician in North Carolina to be elected President, and the honor increases as the years go by, because our profession is continually becoming more intelligent; not only that, but more numerous, of much higher standard in medical knowledge, the profession is operated under a higher standard now than ever before, and I hope that it will continue to be so. We must remember also that the other officers must do their duty in their sphere, and the membership is as much responsible as that of any officer, and I shall expect their support, and I feel that I shall receive it, and if each and every one of us do our duty as we see it before us, I think that we can make it a success for another year.

Dr. Oscar McMullan: Before we return to the afternoon's business I think that a resolution of thanks of the N. C. Medical Society should be returned to the good people of Charlotte for their wonderful and beautiful hospitality. (Applause.) It is at all times a pleasure to leave our business, our cares, our worries and meet here in this scientific meeting, but, sir, when we come, as we do upon this occasion, meeting as we do in this beautiful city of Charlotte, with its men so courteous and hospitable, and its women so kind and beautiful, then with viands fit for a king, with wine as bright and sparkling as the beautiful France, from whence it came, and, above all, with a host so genial and kind, there needs must come to every one of us a feeling of

satisfaction and pleasure that we were here upon this thrice happy occasion, and I am sure I voice this sentiment of every doctor in this presence when I say that we will carry away from this meeting a beautiful memory, to which we will look back to lighten and to brighten the toil and the worries and the cares of the life that is yet to be. Again, sir, I wish to tender, on behalf of this Society, the thanks of this body to the good people of Charlotte.

The PRESIDENT: Did you intend that as a motion, Doctor? Yes, sir.

Then it has been moved by Dr. McMullen that the thanks of this Society be extended to the people of Charlotte for their very kind hospitality and their magnificent treatment of the N. C. Medical Society during its stay with them in this city. All who are in favor of this motion make it known by rising to their feet.

The Society arose, with applause.

The PRESIDENT: I take it that the vote is unanimous.

I think, gentlemen of the Association, that the next thing in order is the appointment of the Chairmen of the various sections, all of which I have done, so far as writing it out on paper. In making these appointments, gentlemen, I have had in mind somewhat the geographical arrangement of the State, and I have consulted gentlemen from the different localities of the State, and I have done this as best I could, with the lights before me. The chairmen for the different sections for next year are:

CHAIRMEN OF SECTIONS, SESSION 1907.

Anatomy and Surgery—Dr. L. A. Crowell, Lincolnton.

Materia Medica and Therapeutics—Dr. C. G. McManaway, Charlotte.

Practice of Medicine—Dr. J. B. H. Knight, Williamston.

Physiology and Chemistry—Dr. J. E. Nobles, Greenville.

Obstetrics—Dr. R. DuVal Jones, New Bern.

Gynaecology—Dr. B. R. Browning, Littleton.

Medical Jurisprudence and State Medicine—Dr. Goode Cheatham, Brevard.

Pathology and Microscopy—Dr. E. W. Phifer, Morganton.

Railway Surgery—Dr. W. E. Headen, Morehead City.

Paediatrics—Dr. O. W. Holloway, Northside.

Delegates to the International Congress on Tuberculosis to be held in New York, November 14-16, 1906, appointed by President Booth—R. H. Lewis, Raleigh; Ben. K. Hays, Oxford; Chas. J. O'H. Laughinghouse, Greenville; A. W. Knox, Raleigh; J. Howell Way, Waynesville; Jas. A. Burroughs, Asheville; J. Roy Williams, Greensboro; Chas. A. Julian, Thomasville; W. M. Jones, High Point; A. A. Kent, Lenoir.

Council on Medical Education of American Medical Association in North Carolina—Drs. Thos. S. McMullan, Hertford; T. L. Booth, Oxford; Chas. Roberson, Greensboro.

We shall expect you, gentlemen, to find writers for those subjects and to have their papers with you at the next meeting of this Society.

The PRESIDENT: The discussion on eclampsia is in order.

Dr. MASON moves that discussion of the papers be dispensed with.

Dr. LONG, of Graham: I wish to say how valuable those papers are, Mr. President. I don't know that I can say any more than has already been said. It seems that the idea of elimination is the treatment, and so far as the diagnosis is concerned, the patient, in cases of that kind, makes the diagnosis.

"Forceps in Labor." Dr. L. D. Wharton, Smithfield. (See index for paper.)

"Clinical Reports. Two Cæsarean Sections, One Umbilical Fistula." Dr. W. H. Dixon, Edward. (See index for paper.)

"Imperfect Hymen at Full Term." Dr. H. S. Lott, Winston-Salem, N. C. (See index for paper.)

"Marasmus." Dr. E. H. Brooks, Reidsville. (See index for paper.)

Dr. Way: I have the pleasure, gentlemen, of introducing to you your First Vice-President-elect, Dr. C. M. Strong, of Charlotte.

Dr. Strong: Gentlemen of the Society: It has gotten down to a homœpathic dose now, so it isn't necessary to make any allopathic remarks; therefore we will proceed with the order of business.

"State Medicine as Now Enforced, and How it Should Be." Dr. W. F. Hargrove, Kinston. (See index for paper.)

Dr. Mason: Mr. President, I move that the balance of these papers be read by title.

Seconded. Carried.

The General Meeting adjourned at 5 p. m., *sine die.*

Edward C. Register,
President.

J. Howell Way,
Secretary.

HOUSE OF DELEGATES.

Minutes of the Third Annual Session (Fifty-Third of the Society) Held in Charlotte, N. C., May 29, 30 and 31, 1906.

The third regular annual session of the House of Delegates of the Medical Society of the State of North Carolina convened in the Criminal Court Room, county court-house, in the city of Charlotte, N. C., on May 29, 1906, at 3:15 o'clock p. m.

Called to order by the President, Dr. Edward C. Register, of Charlotte, N. C.

Roll-call by the Secretary, Dr. J. Howell Way, of Waynesville, N. C., denoted the presence of the following members of the House of Delegates:

President—Dr. E. C. Register, Charlotte.

Vice-Presidents—Drs. L. B. McBrayer, Asheville, and W. O. Spencer, Winston; present.

Vice-President—Dr. W. H. H. Cobb, Jr., Goldsboro; absent.

Secretary—Dr. J. Howell Way, Waynesville.

Treasurer—Dr. G. T. Sikes, Grissom.

COUNCILLORS.

First District—Dr. Oscar McMullan, Elizabeth City.

Second District—Dr. James M. Parrott, Kinston.

Third District—Dr. Frank H. Russell, Wilmington.

Fourth District—Dr. Albert Anderson, Wilson.

Sixth District—Dr. Hubert A. Royster, Raleigh.

Seventh District—Dr. E. C. Register, Charlotte.

Eighth District—Dr. David A. Stanton, High Point.

Ninth District—Dr. Thos. E. Anderson, Statesville.

Tenth District—Dr. James A. Burroughs, Asheville.

Dr. J. F. Highsmith, Councillor for the Fifth District, noted absent, in Europe.

Delegates from the county societies noted as follows:

FIRST DISTRICT.

Currituck—

Pasquotank-Camden-Dare—Dr. Oscar McMullan.

Perquimans—Dr. T. S. McMullan.

Gates—Dr. W. O. P. Lee.
Chowan—Not organized.
Washington—Dr. W. H. Ward.
Tyrrell—Not organized.
Hyde—Not organized.

SECOND DISTRICT.

Hertford—Dr. J. R. Parker.
Martin—Dr. W. E. Warren.
Pitt—Dr. J. E. Nobles.
Bertie—Dr. W. J. Harrell.
Beaufort—Dr. Jno. C. Rodman.
Lenoir—Dr. R. A. Whitaker.
Jones—
Craven—Dr. R. S. Primrose.
Pamlico—Dr. G. S. Atmore.
Carteret—Dr. L. C. Adams.

THIRD DISTRICT.

New Hanover—Dr. G. G. Thomas.
Pender—
Onslow—Dr. Cyrus Thompson.
Duplin—Dr. J. L. Lane.
Bladen—Dr. R. Samuel Cromartie.
Sampson—Dr. G. L. Sikes.
Columbus—
Brunswick—

FOURTH DISTRICT.

Northampton—Dr. Mahlon Bolton.
Halifax—
Nash—
Edgecombe—
Johnston—Dr. G. J. Robinson.
Wilson—Dr. W. S. Anderson.
Wayne—Dr. M. E. Robinson.
Greene—Dr. W. W. Whittington.

FIFTH DISTRICT.

Cumberland—Dr. A. S. Rose.
Robeson—Dr. J. D. Croom.
Scotland—Dr. K. A. Blue.
Richmond—Dr. E. C. McEachern.
Montgomery—Dr. C. Daligny.
Moore—Dr. G. McLeod.
Harnett—Dr. J. W. Halford.

SIXTH DISTRICT.

Chatham—
Wake—Dr. W. H. Boone, Dr. Z. M. Caviness.

Franklin—Dr. R. F. Yarborough.
Warren—
Vance—Dr. F. R. Harris.
Granville—Dr. Ben. K. Hays.
Person—
Caswell—Dr. M. H. McBryde.
Alamance—Dr. G. W. Long.
Orange—
Durham—Dr. T. A. Mann.

SEVENTH DISTRICT.

Anson—
Union—Dr. R. Armfield.
Stanly—Dr. T. A. Hathcock.
Mecklenburg—Dr. I. W. Faison, Dr. R. E. Mason.
Cabarrus—Dr. J. E. Smoot.
Lincoln—Dr. R. W. Petrie.
Gaston—Dr. D. A. Garrison.
Cleveland—Dr. W. F. Mitchell.
Rutherford—Dr. E. B. Harris.

EIGHTH DISTRICT.

Rockingham—Dr. W. P. McGehee.
Guilford—Dr. J. W. Long, Dr. C. W. Banner.
Randolph—
Forsyth—Dr. H. S. Lott.
Stokes—
Surry—Dr. J. B. Smith.
Yadkin—Dr. M. L. Matthews.
Alleghany—
Wilkes—Dr. J. L. Myers.
Ashe—

NINTH DISTRICT.

Davidson—Dr. C. A. Julian.
Davie—Dr. J. W. Rodwell.
Rowan—Dr. C. M. Poole.
Iredell-Alexander—Dr. H. F. Long.
Catawba—
Caldwell—Dr. A. A. Kent.
Watauga-Mitchell—
Burke—Dr. I. M. Taylor.

TENTH DISTRICT.

Buncombe—Dr. M. H. Fletcher, Dr. W. P. Whittington.
Yancey—
McDowell—Dr. M. F. Morphew.
Madison—

Polk-Henderson—Dr. L. P. Russell.
Haywood—Dr. F. M. Davis.
Transylvania—Dr. Goode Cheatham.
Jackson—Dr. C. Z. Candler.
Swain—Dr. D. R. Bryson.
Macon-Clay—
Graham—
Cherokee—Dr. S. C. Highway.

After the calling of the roll the accredited list of delegates as reported by the Secretary was declared the official roster for the session.

The annual address of the President, delivered at the morning session of the general meeting before the largest membership in attendance upon any of the fifty-three sessions of the State Society, was called up and referred to the House of Delegates. After cordially commending the address to the thoughtful consideration of the profession, it was, on motion, referred to a committee composed of Drs. Albert Anderson, James M. Parrott, J. Howell Way.

Dr. J. Howell Way presented the report of the Secretary as follows:

CHARLOTTE, N. C., May 29, 1906.

To the Officers and Members of the House of Delegates of the Medical Society of the State of North Carolina—

GENTLEMEN:—I shall not consume the time of this body with a lengthy report of the various matters which have occupied much of my time and attention during the past year. Suffice it to say the general affairs of the Society continue in excellent condition, and the condition of our organization units, the county societies, is all of the time improving. With the continued growth of the interest in the local societies, there is an inevitable increase in the interest felt in the State society, evidence of which we see in the very extensive program presented for this meeting.

At the present date there are eighty-four chartered county societies, with an enrolled membership of a little more than 1,200. This includes within our sphere of influence a little more than four-fifths of the active practitioners of medicine in the State. In many of these societies most excellent work is being done, and local professional standards are being raised higher, and a growing better feeling existing between the different members of the profession. In the more sparsely populated counties there are great difficulties in the way of making the societies as success-

ful as in the larger counties, but I have everywhere encouraged the few to stand together, realizing that where there were only a few practitioners it was especially necessary that there should be some local tie to bind them together for their own interests, for the good of their clientele and for the betterment of society in general.

Some of these local societies are officered by zealous, active men, who see in them great powers for good, and consequently they are all of the time working and striving for better things. With this type of a society your Secretary has no difficulty in securing reports, or other local information desired. There are others who are not really interested in the work of the local society or of the State organization, and their reports are not so readily forthcoming or so favorable. The gentlemen will pardon the suggestion of the Secretary that a request for information relative to the local affairs of the profession is always based on some proposition useful and beneficial to the interests of the society, and should receive immediate attention. County societies are also kindly advised to see to it that only men who will attend to business are honored with official position. Notwithstanding the unnecessary effort your Secretary has been compelled to make to secure the annual reports of the county societies in advance of this meeting, there are yet several of the county organizations which have not sent in their official reports, though provided with blanks the third time, and in no case less than five gentle requests for their return. A dilatory spirit like this naturally suggests why some members of our profession do not succeed in a business way, and brings the sober reflection that after all we really—each of us—probably get just about what we deserve from our patrons, for it is inevitable that a lack of business methods along one line is likely to be manifested in others as well.

However, I wish to say in this connection, that at this date I have in hand a larger number of the annual reports of the county societies than I have ever been able to secure prior to any previous meeting of the State society, nearly four-fifths of the county societies having filed their reports with the Secretary to date; and in all probability before the close of the year all will have reported. I mention this matter because it will explain to a few gentlemen present why they have not received copies of the preliminary program of this meeting. It is to be remembered that the membership of the State society is the membership of the component county societies, and unless your Secretary receives regular reports from the local branches of this society he cannot be expected to know who the local members are. The volume of the necessary correspondence of the Secretary's office has greatly increased over former years, and is accounted for in the greater amount of interest manifested in the work of the society over the State.

1,200 copies of the Transactions of 1905 were published, and almost all have been sent out. A few copies yet remain on hand, as the invariable rule has been followed of not sending the volume to any members

except those reported as having paid their dues to the Treasurer. The only exceptions to this have been review copies and copies sent other State organizations. The publication of the annual volume is, as in former years, delayed very largely by the tardiness of the gentlemen reading papers at our annual meetings in sending them in to the Secretary. While the 1905 volume was in press I had the forms opened twice to admit to publication papers read at Greensboro the May previous, and the order for the binding covers was changed by telegram in December to permit the admission of another paper from one of our distinguished members. I submit, gentlemen, in all fairness, that this is an imposition on the society, and that our members should comply with the rules which require the papers read at the annual meetings to be turned over to the society at the time of presentation before the body at the annual sessions. Were this rule adhered to, it would be possible to publish the volume months before its appearance as it now is.

"The "insurance resolutions" adopted by the State society at the 1905 session have been the subject of much comment, consideration and correspondence during the year. In addition to securing their publication in various journals I sent to each of our members a printed copy. The county societies have had much discussion along these lines, and the insurance companies have also taken a pretty active hand in the matter. The action of the county societies has in most instances, where action has been taken, been in accord with the spirit of the resolutions recommended to their consideration by the State society at the Greensboro meeting, and I firmly believe that with a disposition on the part of the leading members of the profession over the State to stand squarely by the resolutions that there will be an inevitable acceptance by the companies of the five-dollar fee for all regular old-line examinations for life insurance. This matter has assumed national proportions, and much attention has been given it in other States, as well as in our own, and it is expected to come up for consideration and expression of opinion by the American Medical Association at its forthcoming meeting in Boston next week. In this State, with few exceptions, the societies which were well organized promptly adopted the suggestion of this body. In others the suggestions were modified so as to permit the examining of applicants where no urinalysis was required for a fee of $3. In some nothing was done.

It was very interesting to note the activity of some of the insurance companies in this matter here in this State. Some of them kept pace of what the county societies were doing, and very kindly, wherever there appeared any sentiment favorable to working cheaply for the insurance people, kept the other counties advised of such action. This certainly showed a disposition to stand for what might be termed their business interests on the part of the companies, which is to be commended to the members of our profession who unsuspectingly agreed to what the astute managers of the companies suggested would be for "real interests of

the profession!" Several times it was suggested to me that certain of the companies wished to send lobbyists here to this meeting of the State society to present their wishes in the premises. I have not approved of or advised any motion of this character, feeling that this matter of insurance examination fees, like other medical fees, is a matter about which the State society may, and properly should, express an opinion to the county societies, and then permit them to regulate their own fees to suit themselves. It is very evident, to one who has followed the efforts of the companies in times of unparalleled general prosperity in the country at large, to reduce the fees of physicians which were already really too small, considering the value of the services they rendered the companies; I repeat, it is very evident that the profession all over the nation is aroused in this matter, and with firmness on our part there can be no doubt that less than one-third of the different companies who are in this reducing-fee proposal will be compelled to do one of two things: Pay a proper fee, or accept the services of an under-grade class of men who, with low standards of professional ethical principles, are willing to admit the inferior value of their own professional service and to underbid their fellow-practitioners. To a man who thinks critically it is highly probable the former will be the action of the companies. The present duty of the profession would appear to be simply to stand firmly for a reasonable compensation.

There has, during the year past, been an unusual amount of attention paid the social features of the doctor's life in the fact that more than thirty of the county societies of the State have had annual dinners or more formal banquets at which the membership were entertained, and thus a more fraternal sentiment promoted among the members of the medical guild.

In conclusion, I would remind the members of this society that the future of our work as a society lies with the individual membership, and our success will depend wholly upon the amount of interest the individual member may have in the work of his profession as advanced by medical organization, and not upon constitutions or laws, or constructions of the same. To reach the individual member is our duty. While, with the growth of the society and the development of the various questions which come up for solution in a body so large as ours is now, the entire time of the Secretary could well and profitably be given to his duties, yet we all know this is an impossibility, and any man who fills the duties of the position in even the imperfect way of your present incumbent will hardly fail to have done some things which he ought not to have done and assuredly to have left undone many things he should have done. I congratulate you on our continued prosperous condition, on the growing influence and prestige of our most noble profession, and bespeak your kindly condoning of the shortcomings as an official of your Secretary.

Fraternally submitted,

J. Howell Way, *Secretary.*

On motion, the report of the Secretary was received and its recommendations adopted by unanimous vote.

Reports of the Councillors being called for, verbal reports were submitted from Drs. Oscar McMullan, Parrott, Russell, Stanton, Royster, T. E. Anderson, A. Anderson, and Burroughs, each of whom spoke hopefully of organization conditions in his district, commended the work of the local county societies, and advised that efforts be made to continue all measures calculated to promote an active local interest in the affairs of the profession, believing the increased interest growing out of the county societies operating greatly to the advancement of the profession's best interests throughout the State.

Some remarks relative to the practical workings of the county societies were made.

It being in order the President announced that the delegations from each Councillor's District should select their member of the Committee on Nominations and report.

Dr. Whittaker asked the President for a ruling as to who was eligible to serve on the Committee on Nominations.

Discussion ensued.

The President ruled, in answer to Dr. Whittaker, that any member of the House of Delegates, be he Councillor or delegate from a county society or other member of the body of the House of Delegates, selected by a majority of the members present from a Councillor's District, was eligible to serve on the Nominating Committee.

Dr. Whittaker insisted that under his view of the laws no one except a delegate from a county society was eligible to serve as a member of the Committee on Nominations, and discussed the question at length, advocating that only delegates elected as such by county societies should serve on the Committee on Nominations.

Dr. Mason moved that no one be selected to serve as a mem-

ber of the Nominating Committee except a delegate from a county society.

Dr. Fletcher asked for a ruling of the Chair on the point of the legality of any one to serve except a delegate from a county society.

The Chair ruled the matter was wholly in the hands of the members from the separate districts, who could exercise their own pleasure in selecting their representative on the committee.

Dr. Faison urged that no one except delegates from county societies were eligible to serve on the Nominating Committee, and contended that no one except delegates elected from county societies is entitled to a seat in this body.

Dr. Fletcher raised the point of order as to the right of any one except delegates from county societies to serve on the Nominating Committee.

Dr. Oscar McMullan moved that no one except delegates be placed on Nominating Committee, and urged an appeal from the ruling of the chair to the effect that Councellors were eligible to serve on the Nominating Committee.

The President then put the question as to sustaining the decision of the chair that Councillors were entitled to sit with the members of the delegates from their respective districts and to participate with them in the selection of the members of the Nominating Committee.

The chair was not sustained.

Dr. J. M. Parrott rose to a question of personal privilege and asked if it was now definitely decided that a Councillor could not participate in the selection of the member from his own district.

He was advised that under the recent decision of the House a Councillor could not.

General discussion ensued as to the rights of Councillors to sit in the House of Delegates or to particpiate in any of its proceedings, it being strongly contended by some of the

delegates that the "ex-officio membership" conferred on others in the constitution than elected delegates from the county societies only carried with it the privilege of attending the meetings of the House of Delegates, but without voice or vote in the deliberations of the body.

The delegates from the various Districts consulted together and designated the following gentlemen to compose the Committee on Nominations for the sessions:

First District—Dr. W. H. Ward.
Second District—Dr. Jno. C. Rodman.
Third District—Dr. Cyrus Thompson.
Fourth District—Dr. M. E. Robinson.
Fifth District—Dr. K A. Blue.
Sixth District—Dr. Ben. K. Hays.
Seventh District—Dr. I. W. Faison.
Eighth District—Dr. J. W. Long.
Ninth District—Dr. C. M. Poole.
Tenth District—Dr. W. P. Whittington.

On motion the reports were approved and the designations as made were approved by the House.

Dr. Thos. S. McMullan presented the following resolutions and moved their adoption:

Whereas, a resolution advising a regulation of fees for life insurance examinations was passed by the Medical Society of the State of North Carolina in 1905, and, whereas, the developments of the past year have shown that for its greater usefulness and surer practice some modification is advisable.

Resolved, That the House of Delegates recommend to the Society, now in session, that as amendatory to aforesaid resolution, the county societies be advised that a reduction of the fee from $5.00 to not less than $3.00 where no urinalysis is required will not be construed as subversive of the intent and spirit of the resolutions originally passed in 1905.

Considerable discussion ensued, participated in by Drs. Whittington, T. S. McMullan, Oscar McMullan, Faison, Armfield, Whitaker, R. DuVal Jones, T. A. Mann, Yarbo-

rough, Halford, Z. M. Caviness, K. A. Blue, A. S. Rose, Hill, M. E. Robinson, Cyrus Thompson, and others.

A motion to lay the resolutions on table was seconded and announced as carried. Questions as to vote raised and division called for. The resolutions were read by request again.

A vote was again taken and the resolutions of Dr. McMullan declared lost by more than three-fourths present voting against their passage.

At 6 p. m. a recess was on motion ordered until Wednesday morning.

WEDNESDAY MORNING, May 30, 1906.

The House of Delegates was called to order at 10 o'clock, a. m. President Register in the chair.

Dr. M. H. Fletcher asked to be excused from further attendance and desired the seating in his place of the alternate delegate, Dr. W. L. Dunn. Agreed to.

Dr. Albert Anderson, of the Committee on President's Address, asked for further time to complete the report. Granted.

Dr. Poole for the Rowan County Medical Society asked that the time of holding the annual meeting of the State Society be changed from the spring to early autumn. Discussion by Drs. Oscar McMullan and others. Motion lost on being put to a vote.

Dr. Lott moved the advisability of the State Society meeting in sections, as does the American Medical Association. Opposed by Drs. O. McMullan and Mason.

Dr. Thos. S. McMullan urged the advisability of the same, and insisted the large attendance made it highly necessary in order to facilitate the work of the organization, and called for the question on his motion to refer the matter to a committee of three to report thereon. Seconded. Carried. Drs. Thos. S. McMullan, Cyrus Thompson and C. A. Julian were designated the committee.

Dr. Cyrus Thompson, for the Committee on Nominations, presented the following as the choice of the committee for the various officers and committees for the ensuing year:

President—Dr. S. D. BOOTH.....Oxford
First Vice-President—Dr. C. M. STRONG.....Charlotte
Second Vice-President—Dr. J. E. McLAUGHLIN.....Statesville
Third Vice-President—Dr. W. F. HARGROVE.....Kinston
Secretary—Dr. D. A. STANTON.....High Point
Treasurer—Dr. H. McKEE TUCKER.....Raleigh

Orator—Dr. L. B. McBrayer, Asheville.

Essayist—Dr. E. T. Dickenson, Wilson.

Leader of Debate—Dr. C. W. Mosely, North Wilkesboro.

Councillor Eighth District—Dr. J. B. Smith, Pilot Mountain.

Members House of Delegates American Medical Association—Drs. W. J. Lumsden, Elizabeth City; James M. Templeton, Cary.

Committee on Public Policy and Legislation—Drs. R. H. Lewis, Raleigh; David T. Tayloe, Washington; J. E. Brooks, Greensboro. *Ex-officio*, Sam D. Booth, Oxford, D. A. Stanton, High Point.

Committee on Publication—Drs. D. A. Stanton, High Point, *ex-officio;* T. M. Jordan, Raleigh; Wm. A. Graham, Durham.

Committee on Scientific Work—Drs. Wm. DeB. MacNider, Chapel Hill; H. S. Munroe, Davidson. *Ex-officio*, D. A. Stanton, High Point.

Committee on Finance—Drs. J. T. J. Battle, Greensboro; Frank Duffy, New Bern; J. H. Marsh, Fayetteville.

Committee on Obituaries—Drs. R. D. Jewett, Winston; A. S. Pendleton, Henderson; F. H. Holmes, Clinton.

Delegates to Mississippi Valley Medical Association—Drs. J. Howell Way, Waynesville; J. E. Stokes, Salisbury; R. S. Young, Concord; D. A. Stanton, High Point; W. A. Munroe, Sanford; W. C. Steel, Mount Olive.

Delegates to Virginia Medical Society—Drs. Albert Anderson, Wilson; H. A. Royster, Raleigh; H. H. Dodson, Greensboro; H. F. Long, Statesville; I. M. Taylor, Morganton.

Delegates to South Carolina Medical Association—Drs. E. C. Register, Charlotte; D. M. Prince, Laurinburg; R. B. Hunter, King's Mountain; J. M. Faison, Mount Olive; D. W. Bullock, Wilmington.

Members State Board of Examiners for Nurses—Drs. Jno. G. Blount, Washington; J. E. Ashcraft, Monroe.

Place of Meeting in 1907—Morehead City.

Chairman of Local Committee Arrangements, Meeting 1907—Dr. W. E. Headen, Morehead City.

Dr. T. S. McMullan moved to amend the report of the Committee on Nominations so as to include as an additional member of the committee on Public Policy and Legislation Dr. Geo. G. Thomas.

Dr. Cyrus Thompson agreed that Dr. Thomas would be a most valuable addition to the committee. Dr. Whittaker also stated that he favored the addition of Dr. Thomas. On motion the report was so amended.

On motion, the report of the Committee on Nominations was adopted unanimously.

Dr. Oscar McMullan moved a vote of thanks to Dr. J. Howell Way for his markedly efficient service to the Society as its Secretary for the past four years, and to Dr. Sikes for his equally excellent work as Treasurer.

Dr. M. Eugene Street seconded the motion, and did so, he said, with great pleasure, as the retiring Secretary had been one of the most efficient officers he had ever known.

Dr. Albert Anderson seconded the motion and briefly expressed his regret at the retiring of the Secretary from a post he had filled with great credit to himself and honor to the Society.

Dr. J. W. Long stated that it afforded him unusual pleasure to second the motion, as he had always held Dr. Way in the highest esteem, and unhesitatingly stated that he wanted to go on record as saying that the Society had never had, and would never have, a better and more painstaking Secretary than Dr. Way had made.

Dr. Whittaker also stated his pleasure in seconding the motion, both as to Dr. Way and Dr. Sikes.

Motion adopted unanimously.

Dr. James M. Parrott tendered his resignation as Councillor for the Second District, and stated that he felt he could retire at this time leaving the affairs of the District in good shape.

The House declined to accept the resignation.

The Secretary of the State Board of Medical Examiners presented the following, which was received with thanks and ordered printed in the Transactions and the attention of the county Societies invited thereto as being the correct and proper position for the State Board of Medical Examiners to take in this important matter affecting both the welfare of the general public and the honor of the medical profession. The resolution of the Board of Medical Examiners is as follows:

The Board of Medical Examiners of the State of North Carolina, being in forty-fourth regular annual session, unanimously pass the following:

Resolved, That the Secretary of the Medical Society of the State of North Carolina be and is hereby requested to communicate to the various county Medical Societies of the State of North Carolina that the Board of Medical Examiners believe it to be their duty, and that they will on presentation of sufficient evidence, rescind the license of any physician who is in any way grossly immoral, or who is a drug or alcohol habitue to a degree which may cause him to be a menace to the welfare of his community.

The regular annual report of the State Board of Medical Examiners, exhibiting in detail the work of the Board during the recent session, was also presented and ordered printed in the annual volume of Transactions.

The President announced that in compliance with suggestions made at the 1905 session of the Society he had during the year appointed as special committee on State Society for the Prevention of Tuberculosis the following gentlemen of the Society: Drs. M. L. Stevens, Asheville; R. H. Lewis, Raleigh; Jas. M. Parrott, Kinston; C. M. Strong, Charlotte; J. Howell Way, Waynesville; W. H. H. Cobb, Goldsboro; Albert Anderson, Wilson; Ben. K. Hays, Oxford; Geo. G. Thomas, Wilmington; James A. Burroughs, Asheville; Chas. A. Julian, Thomasville; Watson S. Rankin, Wake Forest; and stated that a meeting of the Committee with others interested would be held during the session of the Society.

Dr. Cyrus Thompson presented the following petition from the Onslow County Medical Society to the House of Delegates of the N. C. State Medical Society:

First. Amend section 1, article 8, of the Constitution of the North Carolina State Medical Society as follows:

After the word "Secretary" insert the words "Reading Clerk."

Second. Amend section 2, article 8, of the Constitution, etc., as follows:

After the word "Secretary" insert the words "Reading Clerk."

First. Amend the By-laws of the North Carolina State Medical Society as follows, by adding at the close of chapter 4:

"Sec. 5. It shall be the duty of the Reading Clerk to attend the sessions of the society and to read any papers presented only upon request of the member presenting the paper."

Amend the By-laws of the North Carolina State Medical Society, chapter 10, section 1, by adding at the end of said section the following:

"And the chairman of each of the foregoing sections shall be privileged during the reading and consideration of papers in his section to occupy a seat by the President, and with him have joint control of the program.

Dr. Thompson then moved the amendment of the By-Laws of the Society to conform to the suggestion contained in the petition from Onslow County Society, and discussed the very great advantages to be derived from having a "reading clerk" for the Society.

Dr. Ivey discussed the proposed measure also, and suggested it be referred to a special committee. This was agreed to and the matter was so referred.

The proposition to enlarge the functions of the Chairmen of sections contained in the resolutions was also approved and referred for the consideration of the same committee to be appointed later by the President:

The following compose the committee to consider the matter: Drs. T. S. McMullan, Geo. G. Thomas, I. M. Taylor.

Dr. W. P. Whittington presented the following from the Buncombe County Medical Society, and moved that the State Society approve the same:

COMMITTEE REPORT AND RESOLUTIONS ADOPTED BY THE BUNCOMBE COUNTY MEDICAL SOCIETY, MAY 21st, 1906.

Whereas, it is the duty of every physician to guard the public health and to instruct the public in matters of hygiene and sanitation;

Whereas, the unrestricted manufacture and sale of patented and proprietary medicines, with their fraudulent claims, and the devices used in advertising the same are a menace to the public health:

Whereas, the American Medical Association, through its Committee on Pharmacy and Chemistry, is making a heroic fight against the indecent, unscrupulous and avaricious system of prescribing, advertising and selling nostrums; therefore be it

Resolved, that the Buncombe County Medical Society heartily approve of the work being done by the Committee on Pharmacy and Chemistry of the A. M. A., and the great educational campaign being carried on by the Ladies' Home Journal, Collier's Weekly, Everybody's Magazine, the Druggists' Circular, the Farm Journal and other lay publications, in their fight against the fraud and deception practiced in the manufacture and sale of secret remedies.

Resolved, that it condemn the slovenly, unscientific and stultifying practice of physicians prescribing or sanctioning the use of medicinal agents of whose formulæ and composition they are ignorant.

Resolved, that it deeply deplores and heartily condemns the methods employed by certain druggists in advertising, both in public places and in the press, secret remedies, for which unscientific and fraudulent claims are made, and who thus necessarily tend to encourage ignorance and deception, and that the society request them to co-operate with the medical profession in their fight against the nostrum evil.

Resolved, that the society, in the interests of public health and common decency, recommend to the Board of Aldermen of the City of Asheville the passage of such ordinances as will prohibit the indecent and fraudulent advertising of secret remedies on bill-boards and in other public places; and also prohibit the distribution of free samples of secret and possibly poisonous preparations.

Resolved, that the proposed act to regulate the manufacture and sale of patent and proprietary medicines, as published in the Journal of the A. M. A., of February 3, 1906, p. 374, meet with the hearty approval of this society, and the delegates of this society to the N. C. State Medical Society are hereby instructed to have these resolutions read before that body, with the request that the Committee on Legislation make every effort to secure the passage of this, or some similar bill, by the State Legislature.

Resolved, that a special committee be appointed to continue in the interest of these resolutions, and report to this society, from time to time, as occasion may require.

Resolved, that a copy of these resolutions be sent to each member of

this society; to each county society of this State; to the Journal of the A. M. A., and the above-named lay periodicals; to each of the druggists of Buncombe County, N. C., and to the Board of Aldermen of the city of Asheville, N. C.

H. H. Briggs.
Laurence E. Holmes.
J. H. Williams.
Gaillard S. Tennent, *Secretary.*

Dr. Mason seconded Dr. Whittington's motion relative to the Buncombe County Medical Society resolutions, and urged that the Society place itself on record as desiring our legislators, both State and national, to use every possible legitimate means to place on the statute books laws covering completely the various needs suggested in the Buncombe County Society communication.

Dr. Faison thought we had already urged our congressmen to support "pure food legislation," but thought the motion was along proper lines.

Dr. W. P. Whittington discussed "nostrum legislation" and urged adoption of the resolutions presented.

Dr. Cyrus Thompson favored the resolutions and related a humorous incident relative to the sick wife who took "three bottles of a certain medicine, etc."

Dr. Mason's amendment was adopted, after which the resolutions as presented by Dr. Whittington were approved by the House.

Dr. Mason urged the members of the Society to exercise care and study closely the remedies they prescribed that we might eliminate the too prevalent tendency to carelessly prescribe remedies, the composition of which was not known to the profession.

It was reported to the House of Delegates that the committee on the State Society for the Prevention of Tuberculosis appointed by the President had met during the session and effected the organization of The North Carolina Society for the Prevention of Tuberculosis, which would hold annual

meetings at the same time and place as the State Medical Society.

On motion, a recess was ordered until Thursday a. m., subject to the call of the President.

THURSDAY MORNING, MAY 31, 1906.

The House of Delegates met on the call of the President at 11 o'clock a. m.

Committee reported as follows:

CHARLOTTE, N. C., May 31, 1906.

We, the committee appointed to examine the books of the Treasurer, G. T. Sikes, beg to make the following report:

On May 24, 1905, there was a balance of	$2,442.61
Collected since that date	1,802.00
	$4,244.61
Expended as per bills	1,930.94
Balance on hand	$2,313.67

(Signed) D. A. STANTON, *Chairman.*
CHAS. J. SAWYER.

On motion, the Finance Committee's report was received and ordered printed.

A communication from the Board of Medical Examiners was presented advising the Society of the resignation from the Board of Dr. Geo. W. Pressly, on account of his having accepted a call to one of the chairs in the North Carolina Medical College, and not deeming it in harmony with the established sentiment of the profession in this State to remain a member of the Examining Board while engaged in medical teaching. The House was also advised of the election to fill the vacancy caused by the resignation of Dr. Pressly, by the remaining members of the Board, of Dr. G. T. Sikes, of Grissom, the late efficient Treasurer of the State Society, and his assignment to the former duties of Dr.

Pressly as Examiner in Chemistry and Pharmacy and Secretary to the Board of Examiners.

The action of the Board of Examiners was approved.

Dr. Oscar McMullan called attention to the fact that the House of Delegates at the session of the day previous had, in adopting the report of the Nominating Committee, elected two members of the House of Delegates of the American Medical Association, when in fact it appeared that at the meeting of the Society in 1905 the two members elected were elected for two years, the regular term of service in the position, and suggested that the House rescind its action in electing these gentlemen.

Discussion followed.

Dr. Way suggested the easiest way to adjust the matter was for the members elected in 1905 for two years to resign, which would more readily enable the House to arrange the representation in accord with the expressed wishes of the Committee, and in accordance with his suggestion the resignation of Drs. J. Howell Way and James A. Burroughs as members of the House of Delegates of the American Medical Association for the terms ending May, 1907, were tendered the House.

After some discussion, on motion of Dr. McMullan, the resignations were accepted.

Proceedings to fill the vacancies created thereby, Drs. J. Howell Way and W. J. Lumsden were nominated for the positions. Dr. Way insisted on his willingness to serve the Society in any capacity where he could promote the good of the profession, but urged that his name be withdrawn from consideration in this connection.

A vote being taken the nominees were elected unanimously. (Later, acting on a suggestion made by him during the sitting of the House, Dr. Way's resignation was tendered to the President, and the choice of the Committee on Nominations for Members of the House of Delegates of the A. M. A. was

approved by President Booth in appointing Dr. J. M. Templeton, of Cary, as member for the year 1906.)

REPORT OF COMMITTEE ON PRESIDENT'S ADDRESS TO THE HOUSE OF DELEGATES.

Your committee believe the suggestions as to the importance of further legislative enactments to our medical laws, making a minimum standard of all applicants to know sufficient English to speak and write correctly, are timely, and if carried out into legal requirements would relieve many applicants and our Board of Medical Examiners of an annual recurrent embarrassment and keep out of the medical ranks a number of defective members, who stand in danger of chronic "mental dyspepsia," that only a good literary education could have prevented. As suggested by the President and urged by the Board of Medical Examiners at Greensboro in 1905 North Carolina should not wait for outside States to take the initiative, but be a pioneer in this as she has in other medical legislation. We should recognize that it takes a broader and stronger mental grasp at present for the successful practice of medicine and surgery commensurate with their broader scope in the various sciences, and this ability must come from literary or school training.

We, therefore, recommend that an adjunct committee be appointed to co-operate with the regular committee for the purpose of enacting a law in this State requiring a minimum standard of a literary education before commencing the study of medicine, and that our President, with three others of his selection, shall constitute this committee.

ALBERT ANDERSON.
J. M. PARROTT.
J. HOWELL WAY.

The President appointed to be associated with him and the legislative committee, in this work, Drs. Albert Anderson, of Wilson; J. Howell Way, of Waynesville, and James M. Parrott, of Kinston.

A committee, composed of Drs. B. K. Hays and Geo. W. Long, was appointed by the President to escort Dr. S. D. Booth, the President-elect, to the General Meeting of the Society and introduce him.

The following appointments as Chairmen of Sections for the ensuing year was announced from President-elect Dr. S. D. Booth:

Anatomy and Surgery—Dr. L. A. Crowell, Lincolnton.
Materia Medica and Therapeutics—Dr. C. G. McManaway, Charlotte.
Practice of Medicine—Dr. J. B. H. Knight, Williamston.

Physiology and Chemistry—Dr. J. E. Nobles, Greenville.
Obstetrics—Dr. R. Duval Jones, New Bern.
Gynaecology—Dr. B. R. Browning, Littleton.
Medical Jurisprudence and State Medicine—Dr. Goode Cheatham, Brevard.
Pathology and Microscopy—Dr. E. W. Phifer, Morganton.
Railway Surgery—Dr. W. E. Headen, Morehead City.
Paediatrics—Dr. O. W. Holloway, Northside.

There being no further business, the House adjourned *sine die*.

E. C. Register,
President.

J. Howell Way,
Secretary.

PROCEEDINGS OF THE ANNUAL CONJOINT SESSION

OF THE

Medical Society of the State of North Carolina

AND THE

STATE BOARD OF HEALTH,

Held at Noon, Wednesday, May 30, 1906, at Charlotte, N. C.

At 12 o'clock Dr. Thomas, President of the State Board of Health, called that body to order, in conjoint session with the Society. The following members were present: Geo. G. Thomas, M.D., President, Wilmington; S. Westray Battle, M.D., Asheville; Thos. E. Anderson, M.D., Statesville; W. P. Ivey, M.D., Lenoir; J. Howell Way, M.D., Waynesville; W. O. Spencer, M.D., Winston-Salem; J. L. Ludlow, C. E. Winston-Salem; Richard H. Lewis, M.D., Secretary and Treasurer, Raleigh.

Dr. Thomas said: "Instead of taking up your time with any remarks, I wish to say that there is a movement on foot in North Carolina now for the organization of a Society for the prevention of tuberculosis—this being a State organization, and also participation in a national movement to that end.

I deem it unworthy of remark to this body of intelligent men to say that any step taken towards the control of the "Great White Plague" is valuable. The movement which will be offered to you this morning is the beginning of an educational campaign, and I take it logically to be carried on by this Association throughout the State by its members, whom they hope to enthuse with the zeal it now inspires, and by all manner of means consistent with the best interests of the people at large as well as the Association, to propagate this movement and bring it to a highly successful end. Dr.

Stevens, appointed by your President the Chairman of this Committee, will be glad to present to you a tentative constitution and by-laws of this Association. Dr. Hays, the Secretary of this Committee, has this Constitution, and will be very glad to read it to you. (I am very glad to say the President put me upon this Committee, for which I thank him.) The Committee will be very glad, after this is presented, if it appeals to you (and you all are, I think, interested in this subject), we want you to come and join this organization and do whatever lies in your power to further the object which it presents to you.

Constitution read by Dr. Hays. (See index for paper and other data.)

Dr. Thomas: Now, gentlemen, you have heard this. These gentlemen, Dr. Stevens and Dr. Hays, will give you a card, and from that will take your consent to become a member of this Association, and later on they will send you out such literature as is necessary. I will be glad to have the report of the Secretary of the Board of Health.

Dr. R. H. Lewis, Secretary of the State Board of Health: They want one dollar, I think it is, from each of you to organize this Society. This is not a part of the State Board of Health's work, but is merely supplementary to it. I explain by these few words so that you will understand what we are driving at. We want to get a sufficient number of subscribers so that the Society can be organized now.

Dr. R. H. Lewis, Secretary Board of Health, read his report:

REPORT OF THE SECRETARY—MAY 20, 1905-MAY 20, 1906.

During the past year our State has not suffered from any epidemic of serious nature and our people have enjoyed the health attendant upon normal conditions. It is true that small-pox has continued to prevail in various localities, as we anticipated and predicted, but, as appears from the detailed report given below, it has been less prevalent and even less fatal than usual. Owing to this more pronounced mildness the people, the authorities in some communities, have been very neglectful of it.

In this connection it is proper to call attention to two incidents in relation to this disease occurring during the past year—both calling forth an opinion of the Attorney-General. In the first case the question raised by the county attorney of Hyde was as to the power of the County Sanitary Committee to order compulsory vaccination. The matter was referred to your Secretary by the County Superintendent for settlement. While in my opinion there was not the slightest doubt as to this power I thought it wisest to have the opinion of our Attorney-General, which would be authoritative. In unequivocal terms he declared the statute conferring this power upon county sanitary committees to be valid.

In the second case the question was essentially the same, although the occasion of it was somewhat different. The County Committee of Washington County, in addition to ordering compulsory vaccination in a certain township infected with small-pox, forbade any teacher to teach or any child to attend school who could not present a certificate of vaccination. This order was resisted by the County Superintendent of Public Instruction, and hence the appeal to me by the County Superintendent of Health. I immediately took the matter up with the State Superintendent of Public Instruction. To be perfectly sure of his ground he obtained a ruling from the Attorney-General. This supporting our position, he at once ordered compliance on the part of his subordinate.

One matter of very great and far-reaching importance, involving a new question in our State, has come up for adjudication since my last report. This is the pollution of streams used for drinking purposes. Section 13 of An Act to Protect Water Supplies reads as follows: "No person, firm, corporation or municipality shall flow or discharge sewage into any drain, brook, creek or river from which a public drinking water supply is taken, unless the same shall have been passed through some well-known system of sewage purification approved by the Board of Health. Any person, firm or corporation, or any officer or any municipality having this work in charge, who shall violate this section shall be guilty of a misdemeanor, and the continued flow and discharge of such sewage may be enjoined by any person." The Eno Cotton Mills, at Hillsboro, empties its raw sewage into the Eno River, from which the Durham Water Company obtains a part of its supply lower down the stream. The cotton mills refusing to comply with the requirements of the act a suit to enjoin them from emptying their raw sewage into the river was brought by the city of Durham. The case was decided in the lower court in favor of the plaintiff, and the defendant cotton mills appealed to the Supreme Court. The case has been argued and a decision will doubtless be handed down before adjournment—in the next few days. That this decision may certify the validity of the act is greatly to be desired. It is a most important matter in its bearing upon the health of our people. People must have water to drink, and they have a right to demand that it be safe water. Owing to the geological formation

artesian wells are impossible in a large part of the State, and consequently the water of streams must be used. It it true, also, that people must get rid of their excreta, and the most satisfactory way of doing this is by water carriage through sewers into an adjacent stream. The law does not forbid this, but merely that communities adopting this plan shall, before emptying its sewage into a stream used for drinking purposes by another community below, submit it to such process of purification as may be approved by the State Board of Health. This is a reasonable requirement, and one which a due regard for the public health demands. From the present outlook it appears that North Carolina is destined to be a great manufacturing State, and many who now hear me will live to see a factory and its accompanying village or town on the banks of nearly every stream within our borders. It is, therefore, extremely important that this question should be settled now, in the beginning, comparatively speaking, of our industrial life, and consequently we await the decision of our court of last resort with anxious solicitude.*

Upon request of the authorities investigation of sewerage problems have been made during the year for the town of Southern Pines and the State Hospital at Morganton and advice given. The reports will be printed in the next biennial report.

Tuberculosis continues, of course, to be our most fatal disease and its prevention the greatest as well as the most difficult problem we have to consider. Owing to the very small amount of money at our command and the other demands upon that our efforts are, necessarily, greatly circumscribed. The policy outlined in my last report—that of appealing directly to the individual by sending him, through the mail, the pamphlet on the Prevention of Consumption, with an accompanying letter calling attention to it and asking its careful reading—has been pursued during the past year. One hundred thousand copies of this pamphlet have been printed, and over eighty thousand have been distributed to date. Many letters of acknowledgment and appreciation and asking for additional copies, to the number in some instances of 500, have been received, and there is no doubt that interest in the subject has been quickened and much good, it is believed, has been done. As it could be done without materially adding to the postage bill, slips on the prevention of typhoid fever and of malarial fevers have been inserted between the leaves of the pamphlets. In this way at a very trifling cost information in regard to these diseases has been widely disseminated. The most discouraging thing in this campaign of education has been the entire lack of interest and co-operation on the part of our profession. In the very beginning a pamphlet with a letter, earnestly appealing to them for their help in this most important work, was mailed to practically every physician in the State. As they came in contact with nearly every case of tuberculosis in their professional work it was hoped that

*The Supreme Court sustained the validity of the act.—Editor Transactions.

they would be glad to supplement their words of instruction to their patients and their exposed families with the pamphlet. But the hope has been unfulfilled, not a half dozen physicians having applied for pamphlets for distribution. Consequently we have received no help from the most powerful and potentially effective agency that could possibly be enlisted in this great work for suffering humanity.

The State Laboratory of Hygiene, while it has done more work than in any preceding year has not been utilized by the profession to the extent one would have expected. The interest is growing, however, and will doubtless continue to increase. As time will not permit the reading in full the report of the Biologist I will give a few short extracts. The total number of samples examined was 1,096, divided as follows: Public water samples from 47 water works, 591; private and physicians' water samples, 210; pathological samples, 295. Of the last-named about one-fourth were diphtheritic exudates, one-half tuberculosis sputum, and the rest chiefly fæces examined for hook worm. An interesting statement by the Biologist, who is a reader of French and German scientific periodicals, is that "The consensus of opinion among working biologists in Europe is that tuberculosis is rarely transmitted directly from cows to humans. This does not mean that there is any radical or specific difference between the germs of human and bovine tuberculosis. It simply means that germs habituated to parasitism on bovines do not easily or at once adapt themselves to the human environment, and as a consequence are less virulent and less able to overcome or counteract the natural protective secretions of the human organism."

Small-pox, as stated in the beginning, has been less prevalent and less fatal than usual. A comparison with last year shows the total number of cases to have been 6,051, against 7,375; and the number of deaths 12, one white and 11 colored, as against 13 and 18 white and colored, respectively, for last year.

The following is a detailed report of small-pox for 1905-1906:

SMALL-POX REPORT FROM MAY 1, 1905, TO MAY 1, 1906.

Counties.	Number of Cases.			Number of Deaths.		
	White.	Colored.	Total.	White.	Colored.	Total.
Alamance	1		1			
Anson	5	44	49			
Beaufort	38	75	113			
Rertie	120	180	300			
Bladen	15	14	29			
Brunswick	5	30	35			
Buncombe	8	2	10			
Burke	1	4	5			
Camden	3	25	28			
Carteret	2	2	4			
Catawba		1	1			
Chatham	4	12	16			

SMALL-POX REPORT—CONTINUED.

Counties.	Number of Cases.			Number of Deaths.		
	White.	Colored.	Total.	White.	Colored.	Total.
Cherokee	482	4	486			
Chowan	35	77	112			
Clay	5		5			
Cleveland	6	6	12			
Columbus	56	19	75			
Craven		10	10			
Cumberland	285	30	315			
Currituck	37	14	51			
Dare	4	4	8			
Davidson		2	2			
Davie	8		8			
Duplin	5		5			
Durham	5	1	6			
Edgecombe		12	12			
Forsyth	2	2	4			
Franklin		1	1			
Gates	50	150	200			
Granville	1		1			
Greene	3		3			
Guilford	15		15			
Halifax	54	4	58			
Harnett	50		50			
Henderson	11	2	13			
Hertford	25	100	125			
*Hyde	900	1,100	2,000	1	2	3
Lenoir	1		1			
Macon	12		12			
Madison	13		13			
Martin	5	5	10			
Mecklenburg	12	24	36			
Montgomery	2	4	6			
Moore	21	60	81			
Nash	16	33	49			
New Hanover	33	97	130		2	2
Northampton	80	40	120		1	1
Onslow	1		1			
Pamlico	2	6	8			
Pasquotank	28	67	95			
Pender	50	100	150			
Perquimans	150	400	550		2	2
Person		1	1			
Pitt	1	5	6			
Polk	4		4			
Richmond	2	12	14			
Robeson	50		50			
Rockingham	2		2			
Rowan		2	2			
Sampson	3	10	13			
*Scotland	3	3	6			
Union	12	150	162		1	1
Wake	1		1			
Warren	2		2			
Washington	40	120	160		2	2
Wayne	18	180	198		1	1
*Stanley		2	2			
Total in 67 counties	2,805	3,246	6,051	1	11	12
Death rate per cent				0.36	0.34	0.19

* Estimated.

Dr. THOMAS: Gentlemen, the report is before you; what will you do with it? Any discussion?

Dr. LEWIS: Mr. Chairman, I will be very glad indeed to hear from some of the gentlemen present in regard to the pamphlet and its distribution. The trouble may be with the pamphlet. Now I am a great believer in advice and suggestions from other people. I like to know what other people think; then of course I do what I think is right afterwards, but I like to get the wise suggestions from others. I would like to hear from the gentlemen in regard to the pamphlet—if it is too abstruse, or anything.

Dr. JULIEN: Mr. President, I want to say that I read the pamphlet and it embraces everything, I am quite sure, for the prevention of tuberculosis, that we know to-day, and I don't think there will be any adverse criticism on that pamphlet, and it is what every physician needs. The American Congress have done the same thing; the Anti-Tuberculosis League in Atlanta have done the same thing, and the only reason the thing fell flat is because the physicians neglect to call the attention of the families to it. They are afraid to distribute literature in families where there are supposed cases of tuberculosis. I think we ought to advocate the early diagnosis of tuberculosis,—that tuberculosis is not consumption, to show them that it is curable and preventable and, as it is curable, it surely is preventable; that there is no other way except through enlightenment and through knowledge, and it is the only way, through such pamphlets, that we can educate the physician and the community, and there should not be any adverse criticism on that, and it is only the negligence of the physician in bringing it to the attention of the families, and I think we should, through this Health Board, get our Legislature to require physicians to report all cases of tuberculosis, just as they do diphtheria, smallpox, etc.

Dr. TEMPLETON: I have joined this Society* to-day, hence any remarks will probably be in order. It seems to me it

*State anti-tuberculosis Society.

would be well to incorporate in that organization—in the resolution there—that we propose to stamp out and prevent malarial diseases. If it be in order, sir, I move that that be incorporated, as one of the duties of that organization.

Dr. Rose, Supt. Health Board Cumberland County: Mr. President, as Superintendent of the Health Board of my county, the greatest trouble I have in the county of Cumberland is with the class of people who cannot read that circular—the people that are ignorant and cannot read the circular. The instruction that I give them falls flat, as you say your circular has fallen upon the ears of the Society. They forget it as soon as I am out of the house. The great trouble I have with it there is amongst the negroes. Unfortunately we have a class of negroes that have been migrating to the North, in recent years, and I suppose in the last two years there have been probably a hundred cases of tuberculosis that have gone to the North and have contracted consumption and have come home to die, and I know of one instance of one family that I attended some time back—when one son went to the North he came back (there was a family of eight), and five of them up to this date have died of tuberculosis, contracted from this one case. That is the trouble that I find with the tuberculosis there. We have a great deal of it, of that class of it, that is brought back from the North, and in that class of patients the pamphlet falls flat, because they can not read it and the instruction that I can give them is not of much avail.

I agree with Dr. Julian, there ought to be a law to force the physicians to report tuberculosis, the same as they do smallpox, so the houses can be fumigated.

Now, after the death of a patient in one or two instances, I have had the house fumigated and have had the thing stopped, but I find that year after year they are dying. I know in Fayetteville now two out of one family have tuberculosis, and three out of the same family have died within the past two years.

Dr. Mason, of Charlotte: When the pamphlet was received it may have been that just at the moment the doctor had no case to whom he could give it. It may be in two or three weeks he can give it out, and if he knows where he can conveniently get them, he will give them out. If you don't send them to the Secretary of the County Society I would suggest that each Secretary be supplied with these, and that the Secretary notify the physicians that he has these papers and that at any time they are needed he will be glad to supply them.

In regard to reporting cases of tuberculosis, I think that we would make a mistake if we passed a law that every case be reported, because there are many cases that if we would tell them they had tuberculosis, we would sound their death knell; but every case that has progressed to a certain extent should be told, and every house that has had cases of tuberculosis in it should be fumigated, we know that: but I don't think we should be so strict that we should make every man who has tuberculosis aware of that fact. We have to use judgment in the matter, in my opinion. We can't tell every man that he has tuberculosis, has been my experience; if you do, it has a depressing effect upon them, and we want the opposite effect; we want the patient to believe he is going to get well, and for him to know that he has tuberculosis at this time—where they don't believe they are going to get well—if you tell a man he has tuberculosis, he will die. It is a campaign of education, I think, before we pass that law. We want to educate the physician.

Dr. Julian: Mr. President, I want to reply to Dr. Mason in this. He says he don't think the time ripe now to report these cases. So long as you are afraid to report your cases of tuberculosis, so long as you are afraid to take care of them—you will have them.

As to reporting them: It isn't consumption until it reaches a certain point; the public can be told that it isn't consump-

tion, and they can be educated to the subject and lives saved. I told the mother of a boy the other night: "Your son has tuberculosis. Put him out in the sun." He is now in the open air, and I am sure he will live a long time. He would probably have died next spring. I am sure now that he will live a long time.

Dr. FERGUSON: Mr. President, we know it is a disease of the masses—a disease existing all over the civilized world. Researches of recent years have demonstrated that this disease, under certain conditions, is a disease susceptible of arresting, and under some conditions of a cure, and above all, that it is a preventable disease. The physicians of all the civilized world know this and are directing their efforts more or less to the consummation of this end, and whatever principles have been established that will stand the test of time in this matter, one fact is without question, and that is, intelligent co-operation of the masses to the consummation of this end; and if the physicians, the teachers and employers, men and women of talent and inclination in this direction, are united in one purpose, to the attainment of this end, much can be done. The greatest cause, probably, of propagating this disease is general ignorance in the matter of hygienic living. There is one objection, there is one fault, it seems to me, comes from information contained by distribution of literature suitable to this end, and that is, its great lack of sticking qualities. In the treatment of tubercular cases that have never been in the sanitarium, have never been required to live in conformity with any fixed methods of hygienic practices, while they will hear you along this line, it is exceedingly difficult, in my experience, to get them to conform in their daily habits of living to any measure of hygienic practices, which is essential to the cure and to the limitation of this disease. I think that the experience of those States who have adopted isolated hospitals for tuberculosis feel that they are awarded as much through the fact that the patients

who may have been there in these institutions, required to live in conformity to the rules of these institutions—some become past masters in this art and are effective subjects for teaching this thing; and those States who have established sanitariums for the treatment of tubercular cases feel that they are largely rewarded in teaching knowledge of the elimination of this disease.

Dr. Weaver: Mr. President, old Rip Van Winkle has always been noted for his conservatism.

I doubt at this time the feasibility of reporting the tuberculosis cases. I think the pamphlet issued by the Board of Health covers the ground thoroughly. As the gentlemen have aptly said, it is a campaign of education, and I doubt whether the profession is educated up to that point whereby they can reach the laity yet. Tuberculosis is not so infectious as we may have been taught to believe. We should teach the people one thing, the essential thing: and that is the care of the sputum, that it is only dangerous in its dry state; that while it is in its moist state probably it is not very contagious. The laity should be taught how to prevent tuberculosis. They should be taught to take care of the cuspidors, those who are affected with it—to have the contents destroyed by burning.

It is the people in the rural districts that need to be educated, not so much in the towns. You must remember that there is from 90 to 95 per cent of rural population in North Carolina, and that there are more cases of tuberculosis in proportion to population in the rural than there are in the thickly settled districts—in the cities of over eight thousand inhabitants; and why? Because the people have never been taught the importance of taking care of the sputum, and the laity, visiting a family where there is an infection, probably sit in the doorway and around the hearthstones and spit, and the tubercle bacillus arise in the air and thereby disseminate the disease in half a dozen families.

I have one instance—a sad instance—I might relate, where I was called to see a young lady and she had tuberculosis—no, she had consumption. I warned the family of the danger of it and how to prevent it, but they took no heed of it, and six months later I was called to see her, but she was in a dying condition, and in a few days was dead. A few months after that I was called to see the second member of the family, a daughter, and she had already passed the stage of tuberculosis and was in consumption. The father was sitting there and said: "Doctor, I want you to examine me. The doctor that was attending me this spring told me I had an abscess on my lungs." I examined the two patients and they both had incurable consumption. Two months from that time they both were buried the same day, in the same grave—all on account of the family physician not telling them how to take care of their sputum in the first patient.

This is the present idea: "Teach the laity," and we can not do it better than by the dissemination of the literature, and then the time will come when we can pass these compulsory laws. The time will come when we can have sanitariums over the State for the indigent poor. We have our hospitals for the insane, why not for the much more afflicted tubercular patients, which I must say, to our chagrin, amount to more in the State of North Carolina than in the great States of Massachusetts and New York. Their percentage isn't more than 12½ per cent, while North Carolina, and her sister State, Tennessee, and the Ohio Valley, is 14 per cent. It is astonishing and should wake up every physician; he should be, as Osler said, "The man behind the gun" to enlighten the people. Only two per cent of the people are treated in the sanitariums of the United States, and ninety-eight per cent are left to the ravages of the "Great White Plague"; so let us, through pamphlets, like our Secretary has suggested, distribute them all over the State, and then the time will come for legislation.

Dr. Faison, of Charlotte: I am always delighted when

the State Board meets with us, because it always means something good for North Carolina. We have had enough talk within the past twenty-four hours to make every man think that some germ already had him.

Mr. Chairman, I am one who stands out with the opinion that there are so many laws—I am opposed to this nampy pamby way of doing things. There is but one way to manage tuberculosis, and that is to prevent it. This thing of curing tuberculosis is one of the things you put down among the exceptions of things—the only way to cure it is through prevention, and if I had the power in my hand to-day I would pass a law that would isolate every man, woman and child in North Carolina who had tuberculosis. As Dr. Ferguson said in his paper, "it is one of the most easily prevented of all infectious diseases; and if it is so easy (and I agree with him), then we should pass laws that are right. I stand here abashed and ashamed that Charlotte, in her hundred years of history, has no law against the prevention of tuberculosis. All the law she has is the State law, but when I grow stronger and with the power of God Almighty, I propose to put on the statute books in Charlotte a law that will be a law that is worth something.

Now, gentlemen, in discussing tuberculosis, I do wish the medical men in North Carolina would quit using the word "contagious" in talking about tuberculosis. I know Dr. Weaver knows better than to talk about "contagion" in tuberculosis. It doesn't come in that class at all, the sooner they realize and accept this fact the better. Tuberculosis isn't a contagious disease. It is a plain communicable disease that is preventable if you will do it—and we have the power to prevent it.

Dr. Weaver: Let me correct the gentleman. I meant infectious.

Dr. Faison: I want them to understand it is not contagious. We have only four or five contagious diseases in the

world, and why you want to put down these things in that class is beyond my comprehension, but it is one of the infectious diseases that we should have to do with. Some are not so easily prevented as others, but this one—tuberculosis—we can put the doctors out of business if we will do what we ought to. Gentlemen, it is a preventable disease, and so long as you talk about educating the laymen to do this it isn't worth a cent. Do something. Put your hand on them with the law and make them do; that is the way to teach the people to do things. I am absolutely of the opinion that that is the way to do, and I propose to stand here and do so, and the sooner we can get laws passed the better. There is no question about that. I know that it will be hard. I know that men kick at new things. We have seen it in this town where men have nearly been kicked to death because they wanted to do what was right, but who cares if he does get kicked, when he is in the right? I would rather be kicked in the right than succeed in the wrong.

Dr. Albert Anderson: I just want to say a few words. I heartily agree with what Dr. Faison has said. I think the best way to do this is by way of statute. I asked our representative last year to introduce a bill in the legislature, which he didn't do. He was so taken up with the bucket shop bill that he never introduced this law on the subject of tuberculosis, and my idea was this: that if it is found in any community that any person is suffering with a cough for any length of time, make the laws so that he will have to have his sputum examined, and it should be found that he has the bascili in the sputum, then make it unlawful for him to ever spit on the ground again. Let each county furnish these people with cuspadors or paraphine bags to spit in, and in this way you bring it to the homes of the people who are suffering with this disease, and it will be the greatest means of curing the people that we could devise, and I agree with Dr. Faison that the way to do a thing is to do it.

Dr. Mann: Mr. President, I feel a delicacy in saying something after the older men have been talking, but I would like to tell something of what we have been doing in Durham. We have been working very faithfully on tuberculosis for the last four or five months. One man said he didn't believe in reporting tuberculosis to a patient, that it would be bad for him. That is all out of reason. Now, if it is right to report diseases in the cities and towns, it is right to do so in the country, and for that reason I am heartily in favor of having the cases in the country and towns reported. In Durham we have passed ordinances making the physicians report under penalty. It is true you can't go right down and make every physician report; the health officer must co-operate with the men and reason with them. I have gone to them personally and gotten reports that I would not otherwise have had. We have had this in force about one month, and I have already seen it is going to work well, and we have had several cases reported and the people have been totally ignorant of the disease and they have been glad to get the literature which we have given them. We have prepared special literature for the people to read. Most of the literature was copied from the Northern cities. It is going to work well, and it will be altogether practicable to make it compulsory, and it is working that way in Durham.

Dr. Hays: Mr. Chairman, it seems exceedingly difficult to get some very learned men in North Carolina to find out that public opinion is the law of the land. This body does not make the laws of North Carolina, nor could we, if we had the power to make the law, make men live under them or obey them. The law is but the expression of public opinion, and there is but one way for us to reach this problem, and we have got to write that way deep upon our hearts and remember it in our prayers night and morning: it is—Education! Education! Education! Now we are dealing with a condition and not with a theory, and I hope that no man who follows me

will use any hair-splitting differences between definitions and fine theories. It it goes abroad that we have this day agreed among ourselves that tuberculosis is not contagious, it had been better had we had no meeting whatever. I do not question the gentleman's learning, but we have not time for hair-splitting differences. What we want to know is, if we can take any action here to-day by which fewer people in the next twelve months in North Carolina would die of tuberculosis than if we had not met here.

Gentlemen, I wish to make a few suggestions: We will have to become teachers of teachers, and I would suggest that we start with our schools. I have been impressed time and time again that the average man, woman and child in North Carolina is not reached so much through the printed page as through the spoken word; that the bacilus of tuberculosis is not so much in evidence where the people get their ideas through the printed page, and for that reason and that alone the pamphlet has not done all that we desire. Now, those who are going to leave the papers must carry the message where the pamphlet is not read. We must carry it first to the school teachers. One of the best schools in North Carolina is a female school in my town. One of my nieces studied there this year. She studied all the oligies—more than I ever heard of before, but when it came to hygiene, which comes at the back of the book, the teachers stopped and went on, and she didn't know one bit more how to take care of herself, her health or the health of those hereafter dependent upon her, than if she had not been to that school; therefore, I think we ought to make the effort to teach the teachers of North Carolina to disseminate the laws of health. First in the graded school we should ask the teachers to teach the little fellows the danger of sitting in a heated room, so that they would not be willing to do so at home; and we should teach them the danger of sleeping in a room where there is no ventilation, so that they will tell their parents that they must not sleep in a

room with the windows and doors closed. We can do that, if we go to the teachers and ask them to teach those things. That is the second suggestion.

I would suggest that we make an appeal to the preachers. I have been to a patient and found that some good pastor had suggested to the patient that he take such and such a patent medicine. (Much applause.) That is an every day occurrence, but I have never in my life heard a preacher in the pulpit (and I am a pretty regular church goer) say anything about the laws of health or of ventilation, and I go to church and to the opera house, where the authorities do not take the least precaution to see that the building is properly ventilated. Now, we might ask our preachers to read the pamphlet—not ask the poor, ignorant patient to read it—but we might take them to the preachers and ask those preachers to take them as the message from God. It may be that Dr. Lewis is the messenger all right, but he didn't originate the message, and if they will teach their congregation that the laws of health are the laws of God, then we will see tuberculosis stamped out in North Carolina.

In the third place, I would suggest that we tell our intelligent families that whoever have influence and who can bring about reform, the danger that exists in permitting the laundry of our best people taken into houses that are infected with tuberculosis, smallpox, etc. Now we know that tuberculosis is more prevalent among them; that they are less sanitary; that they live in rooms without a fire-place, that the windows are pulled down, the stove red hot, the thermometer is about one hundred, and tuberculosis germs fill the air and our laundry goes into that atmosphere, and when our clothes come home, if they have not been well ventilated, then beware! If we could take two or three practical suggestions and work along these practical lines and forget our fine theories and hair-splitting differences; if we would make a special campaign to the teacher; make a special campaign to the preacher;

make a special campaign to the people who are going to influence the ignorant people, we would do something at least to save a few human lives in North Carolina, and that in the near future.

Dr. KIRK, Hendersonville: I have listened to these views, Mr. President, but we can not be too stringent in our lives, or in the enforcement of them, to correct this trouble; but while we are educating the public, while we are trying to disseminate all of this information and knowledge among the ignorant, let us not forget the poor unfortunate who has tuberculosis. We forget sometimes that they have feelings, you know, and if we expect to have a law efficiently carried out, there is hardly very few men who wouldn't observe an expectoration ordinance—who wouldn't observe everything else, if they were not shunned and looked upon as lepers; let's help our brother who has tuberculosis. I know of an institution that has a patient of mine who told me he was in New York; he pulled out a glass and expectorated in it in the street car and almost caused a stampede, and he was shunned. He said he got off that car and he expectorated next time on the floor, in another car, and nobody paid any attention to him. We want to show sympathy and tolerance to those who are afflicted and not want to drive them like dumb cattle.

A man who has tuberculosis is not criminal. He is a danger to society, I will admit, but let's make the laws such as he can obey and he will be willing to do it. Every man has some love for his fellow man; then let's not make it harder than we can help for him to obey the laws. I am not here to say that I do not believe in the most intelligent laws, but I am here to make a plea for those who are so unfortunate as to be afflicted by tuberculosis, that we may, in every way that we can, make it easier for him to obey those laws and not shun him, but look upon him as a man who is trying to help his fellowmen and not disobeying the law.

Dr. Lewis: I would like to say a word in explanation. I do not wish the session to understand that the pamphlet has fallen flat on the whole; the only place that the pamphlet has actually fallen flat is among the medical profession. This pamphlet has been sent to every preacher in North Carolina, begging him to read it and carry it out among his people, to preach the doctrine of prevention. The same way with the teachers. Every teacher in North Carolina, white and colored, has had it, with a letter, and not only to instruct the children, but the families. Of course we desire education. It isn't worth while to talk about laws until public opinion has been educated. Just to give you an illustration: to take the compulsory notification of tuberculosis—the doctors are here, but they "ain't a-gwine." Now that theory is quite bad, but practically it is the truth. The subject was brought up in Raleigh, and I was appealed to to have a law passed under penalty, reporting all cases of tuberculosis to the health officers of that city. When the gentlemen came to me, who were very much interested, I threw cold water on it, and they were very much astonished, no doubt; but I said to them, as I said to Governor Aycock at the time, "I simply can not afford to advocate with apparent sincerity even something that I know perfectly well is not practical." I said of course I am not going to oppose it outright. It was tried, and what was the result? Six months afterwards—the penalty was twenty dollars for not being reported—I asked the health officer, "How many cases have been reported?" He said "one!"

My friend on the left said he is afraid to tell the patient himself he has tuberculosis. If the doctor isn't going to tell the patient himself he has tuberculosis and give him warning if he doesn't follow such a course of action he is dead, sure to die; if he doesn't tell the family—whether you call the disease infectious, communicable, or catching (applause), it don't make any difference what word you use, but it is a CATCHING DISEASE, and I agree with one gentleman

that it would be a great misfortune if it should ever get out among the people that tuberculosis or consumption is not contagious—because contagion is the word the people use—we scientific men make certain long-drawn conclusions, but when we come to define between the differences of infection, contagion or communicable, it is a mighty hard matter for me to get at the difference.

Dr. Hays is right about it: the appeal was to enlist the physicians' co-operation for the people. The whole thing hinges upon the cordial co-operation of the doctor. You may pass any number of laws you please, you may distribute around among the laity all the information you please, but if the family physician, in whom the people have more confidence than other folks, if the family physician is indifferent on the subject, if he doesn't insist upon it, they don't care a thing for it; but if the physician says to the people, "Here is a case of consumption in your family. It is a catching disease. If you don't have the member of your family take certain precautions (which you will explain to them) the probability is that he will die, it is my duty to let you know this fact," and they will take these precautions. I will illustrate it by telling you that in the county of Richmond, in North Carolina, in a certain house, an old ex-Confederate, in a family of eleven—one was burned to death and the other ten died of tuberculosis. A negro family moved in and lived there three months and moved out. A short time after that another family, perfect types of health, ten in all, moved in, and every single one died of tuberculosis.

If the doctor has it in his heart to prevent the spread of this disease and will put it to the patient and impress upon him that he should take these precautions, or otherwise affect the other members of the family, who are dearer to him than anybody else, and then tell the family if they don't take certain precautions they themselves will have the disease—if the doctor's heart is in it, I am satisfied in many cases (of course

I realize the difficulty of managing the ignorant), those precautions would be observed. What we want is the active and cordial co-operation of the physician in North Carolina in the education of the people, as to the communicability of tuberculosis, as to the fact that it can be prevented, and also give them hope that if it is taken in time that it can be cured.

Dr. Burroughs: Mr. Chairman, I move that the Secretary's report be accepted.

Dr. Thomas: It has been moved, sir, and has been ordered to be printed.

Dr. Thomas: Before we adjourn, gentlemen, I will say Dr. Stevens will take what measures he sees fit to expedite the further organization of the Society for the prevention of tuberculosis, and if there is nothing else before this conjoint session, it stands adjourned.

The Vice-President: I wanted to state that the cards distributed a few moments ago were for the names of those interested in this crusade against tuberculosis, and who are willing to operate in the organization of a society for the prevention of tuberculosis. No money is wanted now. Those who are interested are requested to go across into the room occupied by the House of Delegates and we will organize immediately. This can be done in about three minutes and will not make any one late for dinner.

Society here adjourned until three o'clock.

The North Carolina Association for the Prevention of Tuberculosis.

Pursuant to a call issued by a committee appointed by the President of the State Medical Society, under resolution offered at the 1905 session, a number of the medical gentlemen in attendance on the fifty-third annual meeting of the Society at Charlotte, N. C., May 30, 1906, met together and organized the above-named Association.

A constitution was adopted, which is herewith appended, after which the following Directors were elected:

M. L. Stevens, Asheville; R. H. Lewis, Raleigh; J. Howell Way, Waynesville; Geo. G. Thomas, Wilmington; James A. Burroughs, Asheville; James M. Parrott, Kinston; Ben. K. Hays, Oxford; W. H. H. Cobb, Goldsboro; Chas. A. Julian, Thomasville; Watson S. Rankin, Wake Forest; Albert Anderson, Wilson; Kenneth M. Ferguson, Southern Pines.

On the following afternoon the Directors met and held a short meeting.

Dr. M. L. Stevens, of Asheville, was elected President. Dr. J. Howell Way, of Waynesville, was elected Secretary, but declined, and suggested Dr. Ben. K. Hays, who was unanimously elected.

Dr. Chas. A. Julian was elected First Vice-President. Dr. Albert Anderson, of Wilson, was elected Second Vice-President.

It was resolved to hold the annual session of 1907 at the same time and place as the State Medical Society. Each member was requested to become a subscriber to a publication called *Out-Door Life*, published in the interest of the prevention of tuberculosis.

On motion of Dr. Julian, the Secretary was requested to issue a general invitation to the profession and other interested persons in the State to unite with the Association and aid in its beneficent work.

The Association adjourned to meet upon call of the President on the occasion of the fifty-fourth annual session of the State Medical Society, to be held at Morehead City, N. C., May, 1907.

M. L. Stevens, M.D.,
President.

Benj. K. Hays, M.D.,
Secretary.

Constitution.

ARTICLE I.—Name.

The name of the association shall be "The North Carolina Association for the Prevention of Tuberculosis."

ARTICLE II.—Object.

The object of the association shall be the prevention of Tuberculosis, (a) by the study of the disease in all of its forms and relations, (b) by the dissemination of knowledge concerning its causes, prevention and treatment, and by supplementing the work of the State Board of Health in this cause; (c) by such other means as may from time to time be deemed advisable.

ARTICLE III.—Meetings.

The meetings of the association may be held at such times and in such places as may be directed in the By-Laws.

ARTICLE IV.—Incorporation.

The names and residences of the incorporators are:
M. L. Stevens, M.D., Asheville, N. C.
R. H. Lewis, M.D., Raleigh, N. C.
J. Howell Way, M.D., Waynesville, N. C.
James M. Parrott, M.D., Kinston, N. C.
W. H. H. Cobb, M.D., Goldsboro, N. C.
James A. Burroughs, M.D., Asheville, N. C.
Albert Anderson, M.D., Wilson, N. C.
Ben. K. Hays, M.D., Oxford, N. C.
Geo. G. Thomas, M.D., Wilmington, N. C.
Chas. A. Julian, M.D., Thomasville, N. C.
Watson S. Rankin, M.D., Wake Forest, N. C.
Kenneth M. Ferguson, M.D., Southern Pines, N. C.

By-Laws.

ARTICLE I.

MEMBERS.

SECTION 1. Any person who shall pay $1.00 or more into the treasury of the association shall have his name enrolled as a member for the year in which such payment is made.

SEC. 2. The payment of $25.00 at one time shall entitle a member to a life membership.

SEC. 3. Persons who have, by original research or as sanitarians or as philanthropists, eminently aided in combating tuberculosis may be elected honorary members.

ARTICLE II.

OFFICERS.

SECTION 1. The association shall, at its first meeting and annually thereafter, elect a Board of Directors. This board shall consist of twelve members, but may hereafter, at any regular or a special meeting, be increased by electing one director from each county (of the State) in which this association has members.

SEC. 2. The Board of Directors shall make its own rules and shall have entire charge of the business and work of association. Committees shall have the power to execute only what is directed by the board.

SEC. 3. The Board of Directors shall annually elect from its own members a President, two Vice-Presidents, a Secretary and a Treasurer who shall be the officers of the association.

ARTICLE III.

COMMITTEES.

SECTION 1. The Board of Directors shall appoint an Executive Committee of five directors, of which the President and the Secretary shall be members *ex-officio*, to which shall be entrusted all the executive work of the association.

SEC. 2. The Board of Directors is empowered to appoint representatives to the International Committee on Tuberculosis, the National Association for the Study and Prevention of Tuberculosis and the North Carolina State Medical Society. It shall also, from time to time, appoint such committees as may be necessary for scientific and educational work, and for the holding of meetings and congresses.

ARTICLE IV.

QUORUM.

Five directors shall constitute a quorum of the Board of Directors.

ARTICLE V.

MEETINGS.

There shall be one stated meeting of the association each year at a time and placed to be fixed by the Board of Directors. Other meetings of the association may be called by the Board of Directors at such a time as it shall deem proper. The Executive Committee shall hold stated and other meetings as may be directed by the rules of the Board of Directors.

ARTICLE VI.

MONEYS.

The moneys received from membership fees and from all other sources shall be used for defraying the expenses of the association and for furthering its objects, under the direction of the Board of Directors.

ARTICLE VII.

AMENDMENTS OF CONSTITUTION.

Propositions to amend the Constitution may be presented in writing at any meeting of the Board of Directors, or of the association, and may be voted on at the meeting of the association next following; *provided, however,* that no proposition for amendment shall be voted on within thirty days after its presentation, nor without at least twenty days' notice of the meeting at which it is to come up for consideration, which notice shall set forth the proposed amendment in full. An affirmative vote of two-thirds of the members present shall be required for the adoption.

ARTICLE VIII.

AMENDMENT OF BY-LAWS.

The By-Laws may be amended in the same manner as the Constitution or by a two-thirds vote of the members present at a meeting of the Board of Directors; *provided,* that in the latter case the proposition to amend has been presented in writing at a previous meeting of the association, or of the Board of Directors, and that subsequently to such presentation twenty days' notice in writing has been given of the proposed amendment in the call for the meeting.

FORTY-FOURTH ANNUAL MEETING

OF THE

BOARD OF MEDICAL EXAMINERS

OF THE

STATE OF NORTH CAROLINA.

Charlotte, N. C., May 23 to 31, 1906.

The Board of Medical Examiners met in Charlotte on Wednesday, May 23, at 3 p. m. One hundred and thirty-one applicants registered, and the first examination on Physiology was put up at 9 a. m. on Thursday by Dr. Laughinghouse, the President of the Board. At 3 p. m. Anatomy was put up by Dr. Parrott, and at 8 p. m. the examination on Chemistry was held by the Secretary.

On Friday morning at 9 o'clock Dr. Fletcher held his examination on Obstetrics, and at 3 p. m. the examination on Practice by Dr. Kent was held.

Saturday at 9 a. m. Dr. Russell examined on Surgery, and at 3 p. m. Dr. Battle closed the examinations with Materia Medica.

On account of the number of late comers another set of questions were put up on Monday, and while this made a good deal of extra work for the Board, it was gone through with in a very satisfactory manner. When the papers were gone over it was found that of the 131 applicants 86 had made the necessary grade to pass, and 45 had failed.

The names of the successful applicants are as follows:

Emile B. Quillen, Rocky Mount.
James H. Harper, Snow Hill.
Major I. Fleming, Hamilton.
Wm. T. Carstarphen, Garysburg.
Allen R. Holshouser, Rockwell.
John O. Simmons, Dysortsville.
Wesley M. Stone, Davidson.
Miles B. Abernethy, Charlotte.

Robert H. Lafferty, Davidson.
Daniel S. Currie, Maxton.
Clarence N. Peeler, Casor.
James A. Byers (col.), Greensboro.
Peter W. Burnett, (col.), Oak City.
E. A. Taylor, (col.), Bovina, Miss.
Ezekiel E. Smith, Jr., (col.), Fayetteville.
Hugh B. York, Williamston.
Hodge A. Newell, Mapleville.
Louis R. Casteel, Culberson.
Francis W. Janney, Baltimore, Md.
Verner Nisbet, Philadelphia, Pa.
Sam. H. Ezzell, Van Wych.
David R. Perkins, Marshall.
Rufus H. Moorefield, Vade Mecum.
Henry H. Hodgin, Red Springs.
Wm. E. Manville, Washington, D. C.
Romulus L. Carlton. North Wilkesboro.
John W. Williams, Washington.
James M. Hodges, Banner's Elk.
Forest A. Carpenter, Henrietta.
James A. Dimmette, Wallburg.
Herbert H. Utley, Cardenas.
Wm. Myers Hunter, Charlotte.
Jacob P. Jarboe, Greensboro.
Wm. L. Sheep, Washington, D. C.
John L. Lane, Faison.
Lemuel W. Kornegay, Mt. Olive.
Rufus R. Morrison, Shelby.
Geo. T. Clark, Sandifer.
Lewis W. Elias, Asheville.
Paul H. Ringer, Asheville.
Theodore Y. Hull, Asheville.
Vann McK. Long, Unionville.
Geo. W. Taylor, Laurel Springs.
Harry M. Jones, Franklin.
Wm. Allan, Lexington, Va.
Charles H. Peete, Warrenton.
John M. Boyce, Whiteville.
Wilmer L. Grantham, McDonald.
Daniel T. Boger, Unionville.
James C. Waddy, Greensboro.
John L. Pritchard, Aulander.
Edwin F. Fenner, Halifax.
Jesse W. Wilcox, Putnam.

Wm. S. Jordan, Raleigh.
Geo. A. McLemore, Parkersburg.
Battle A. Hocutt, Wakefield.
Milton M. Caldwell, Concord.
James K. Hall, Morganton.
Frank E. Perkins, Copenhagen, N. Y.
Donald H. Leeper, Charlotte.
Iva A. Yow, Sprite.
Lawrence H. Coffey, Coffeys.
Claude O. Abernethey, Chapel Hill.
James S. Rhodes, Williamston.
Albert H. Bowers, Thomasville.
Oscar J. Carpening, Lenoir.
John T. Hoggard, Aulander.
Wm. W. Stancell, Margarettsville.
Albert DeK. Parrott, Kinston.
Henry C. Chalmers, Woodsdale.
Chas. B. Wilkerson, Durham.
Logan E. Farthing, Boone.
James B. Ruffin, Powellsville.
Thos. M. McCoy, Huntersville.
Mary L. Martin, Davidson.
Louis G. Beall, Greensboro.
Mary E. Lapham, Highlands.
Reuben A. Lloyd, (col.), Williamston.
Lewis M. Gaines, Wake Forest.
Joseph M. Patterson, New Bern.
Abraham H. Rose, Smithfield.
Geo. D. Vick, Selma.
Edward B. Clement, Salisbury.
Joseph P. Speight, Whitakers.
James W. Tankersley, Salisbury.
Greenville R. Berkeley, Atlanta, Ga.
John Robert Carr, Durham.

One hundred and thirty applicants, representing 34 colleges, applied. Eighty-five licensed and 45 rejected.

The three highest marks were: (1) Lewis M. Gaines, of Wake Forest, 94 2-7. (2) James M. Harper, of Snow Hill, 93 6-7. (3) Mary L. Martin, of Davidson, 93 3-7.

The election of officers resulted as follows:

President—DR. A. A. KENT.....Lenoir
Secretary—DR. G. T. SIKES.....Grissom

Dr. J. M. Parrott introduced the following:

Resolved, that the Secretary of the State society be and he is hereby requested to communicate to the various county societies that the Board of Medical Examiners believe it to be their duty and that they will on presentation of sufficient evidence rescind the license of any physician who is in any way grossly immoral or who is a drug or alcohol habitue to a degree which may cause him to be a menace to the welfare of his community.

After discussion it was passed by a unanimous vote.

The retiring Secretary was presented with a very handsome gold watch by the remaining members of the Board, which so overcame him that he was not able to express his thanks and appreciation in words.

The matter of holding the examinations after the Society meeting instead of before was discussed by all the members of the Board, and it was thought possibly this would be better for the applicants, the Society and the Board, but no changes were made in the By-Laws governing the time of meeting or otherwise. The Board then adjourned to meet in Morehead City in 1907.

Questions asked by the Board at the 1906 meeting:

PRACTICE OF MEDICINE.

A. A. KENT, M.D., LENOIR.

1. Give diagnosis between intestinal colic and localized peritonitis.
2. In chronic dysentery what character of lesions exist and where are they located?
3. Define cerebro-spinal meningitis, giving cause of the disease and anatomical lesions.
4. What is the cause of relapses in typhoid fever?
5. What is meant by the term "gray hepatization" in pneumonia?
6. Define chlorosis and write a single prescription for it.
7. Name the cardiac affections in order of their frequency that complicate acute articular rheumatism.
8. Give medical treatment for acute cystitis.
9. Give treatment for case of pleurisy with effusion.
10. Give briefly medical treatment for a case of chronic interstitial nephritis.

Chemistry.

GEO. W. PRESSLY, CHARLOTTE.

1. Define the following terms, viz.: synthesis, equation, valence, dialysis, symbol.

2. Name the colors of the solar spectrum in their order.

3. The physical properties of a chemical element are as follows, viz.: An invisible, colorless, tasteless, odorless gas, heavier than air, s. g. 1.10 (air—1), slightly soluble in water, 3 per cent found in natural water; affinities of great power and wide range, combines with every other known element except fluorin and the argon group. What is the element? What is its distribution in nature?

4. Convert the following to grains and ounces; 3 grams, 30 grams, 500 C. C.

5. Average composition of human and cow's milk.

6. Composition of chalk-stones of gout; of gall-stones or biliary calculi.

7. Give a specimen of urine for examination, name ten things you would do, in their order.

8. What salts are insoluble in warmed urine, but are dissolved on addition of acetic acid?

9. About 1 in. of suspected urine is mixed in a test-tube with 1-2 inch of a saturated solution of picric acid and 1-2 inch of liquor potassa. On boiling this yellow mixture for one minute a slight deepening of color may occur in normal urine, owing to reduction by uric acid and kreatinin, but a dark mahogany-red color would denote what?

10. Write name of each formula in the following equations:

C_2H_5OH plus H_2SO_4 equals $C_2H_5HSO_4$ plus H_2O.

$C_2H_5HSO_4$ plus C_2H_5OH equals H_2SO_4 plus $(C_2H_5)_2O$.

Physiology and Hygiene.

CHAS. O'H. LAUGHINGHOUSE, GREENVILLE.

1. What is the capacity of the normal bladder?

2. What portion of gastro intestinal tract accomplishes the greatest amount of absorption?

3. What color is the blood in the Pulmonary artery, and why?

4. What is the function of the bronchial artery?

5. Name the forces that keep the blood in circulation.

6. What is a vaso motor nerve?

7. In the event you destroy the gyrus fornicatus, what happens?

8. In the event you divide the anterolateral columns of the spinal cord, what happens.

9. Give location of centre of speech.

10. What pathalogical bacteria most commonly pollute drinking water?

Anatomy.

DR. JAMES M. PARROTT, KINSTON.

1. Describe the Atlas and name the bones with which it articulates.
2. Describe the ankle joint, name its ligaments (do not describe them) and name the bones which enter into its formation.
3. Locate and describe the Mitral (left Auriculoventriculo) valves of the heart.
4. Give the relations of the head of the Pancreas.
5. Describe the spongy portion of the male urethra (do not give its histology).
6. Name the nerves which supply the muscles of the eye-ball, mentioning the muscle or muscles which each supplies.
7. Describe the Eustachion tube.
8. Give the relations of the 3d portion of the subclavian artery.
9. Give the relations of the female bladder.
10. Describe the Median nerve (do not give its relations) and name the muscles or group of muscles it supplies.

N. B.—Answer only eight (8) questions.

Obstetrics, Gynecology, and Pediatrics.

DR. H. M. FLETCHER, ASHEVILLE.

1. (a) Describe a normal ovary. (b) Give symptoms of pregnancy at end of second month.
2. Give etiology, prognosis, symptoms and treatment of concealed accidental hemorrhage.
3. Name risks to mother and child in breech presentations.
4. Give origin and distribution of uterine vessels and nerves.
5. Give causes and treatment of menorrhagia and of metrorrhagia.
6. (a) Give diagnosis of cancer of cervix uteri. (b) Give treatment of chronic cystitis.
7. Give written instructions for artificial feeding of an infant one week old.
8. Give symptoms and treatment of rickets.
9. Give location of lesions and symptoms of poliomyelitis.

Materia Medica and Therapeutics.

DR. J. T. J. BATTLE, GREENSBORO.

1. State the physiological action of Opium; Dose of Ext.; Tr. and Camph. Tr. Mention two most important alkaloids and dose of each. Antidotes in case of poisoning.
2. Give dose of Tr. Aconiti; parts used, physiological action.
3. Dose of Caffeine; its action upon the system.
4. Explain laxative action of Magnesii Sulphas; Oleum Ricini; Aloe; dose of each.

5. Principal alkaloid of Pilocarpus; dose and physiological action.

6. Physiological action of Acidum Carbolicum; dose; chemical antidoes.

7. Explain action of Apomorphinæ Hydrochlor; dose. From what is it made.

8. State the effect on the heart of medicinal doses of Nitro-Glycerine; Digitalis; and Strychnia.

9. Physiological action of Physostigma; dose of Tr.; name the principal alkaloid and dose.

10. Physiological action of Oleum Terebinthinæ; dose; symptoms of overdose.

If any reasons why the following prescriptions should not be used state them:

—11—

1. Pot. Iod.
   Spts. Aetheris Nit.
   Aquae.
2. Pot. Permang.
   Glycerinae.
   Aquae.
3. Morphiae Sulph.
   Aq. Lauro Cerasi.
4. Basham's Mist.
   Tr. Digitalis.
5. Pot Iod.
   Acid. Nitro-Hydrochl.
   Tr. Cinch. Co.
6. Am. Chloridum.
   Syr. Sciliae.

—12—

1. Am. Carbonat.
   Syr. Scillae.
2. Pot. Iod.
   Coros. Subl.
3. Pot. Chlorat.
   Acid. Tannic.
4. Quin. Sulph.
   Sodii Salicyl.
   Acid. Sulph.
   Aquae.
5. Am. Chlorid.
   Pot. Chlorat.
   Aquae.
6. Strych. Sulph.
   Potassii Iod.
   Syr. Sarsap. Co.

Answer any ten questions, No. 1 included.

Examination in Surgery.

F. H. RUSSELL, WILMINGTON.

1. Give the diagnosis of suppuration.
2. Give the causes of gangrene.
3. Define (a) septic intoxication (b) septicemia (c) pyemia.
4. Give symptoms of internal hemorrhage.
5. Give symptoms and treatment of fracture of middle 1-3 of femur.
6. Give symptoms of fracture at base of skull.
7. Give causes of intestinal obstruction.
8. Give symptoms of acute perforating appendicitis.
9. Give symptoms and treatment of ischiorectal abscess.
10. Give causes of retention of urine.

Examination No.	Name.	Address.	College of Graduation.	Year.	Average Grade.
1	Emile B. Quillen	Rocky Mount	University of Maryland	1904	80 3-7
2			University of Maryland	1904	56 6-7
3	James H. Harper	Snow Hill	Jefferson	1905	93 6-7
4	Major I. Fleming	Hamilton	Jefferson	1904	81 6-7
5	Wm. T. Carstarphen	Garysburg	Jefferson	1904	80 4-7
6			Trinity University, Toronto	1888	63 3-7
7	Allen E. Holshouser	Rockwell	Chattanooga Medical	1904	80 5-7
8	John O. Simmons	Dysartsville	Grant University	1894	81 5-7
9	Wesley M Stone	Davidson	N. C. Medical College	1906	81 1 7
10	Miles B. Abernathy	Charlotte	N. C Medical College	1906	85 2-7
11	Robert H. Lafferty	Davidson	N. C. Medical College	1906	85 5-7
12	Daniel S. Currie	Maxton	N. C. Medical College	1906	83 5-7
13	Clarence N. Peeler	Casor	N. C Medical College	1906	88 6-7
14			University of Maryland	1903	64 5-7
15			Leonard Medical College	1906	67 3-7
16			Leonard Medical College	1906	72 5 7
17	James A. Byers, colored	Greensboro	Leonard Medical College	1906	81 3-7
18			Leonard Medical College	1905	66 4-7
19	Peter W. Burnett, colored	Oak City	Leonard Medical College	1906	80
20	Emora A. Taylor, colored	Bovina, Miss.	Leonard Medical College	1906	85 1-7
21			Leonard Medical College	1905	59
22	Ezekiel E. Smith, Jr., colored	Fayetteville	Howard University	1903	81
23			Meharry Medical College	1902	56 6-7
24			University of Maryland	1906	77 1-7
25	Hugh B. York	Williamston	P. & S., Baltimore	1906	80 1-7
26	Hodge A. Newell	Mapleville	P. & S., Baltimore	1906	85 1-7

* 1906 RECORD OF THE BOARD—CONTINUED.

Examination No.	Name.	Address.	College of Graduation.	Year.	Average Grade.
27			Grant University	1900	46 4-7
28	Lewis R. Casteel	Culberson	Vanderbilt	1893	80
29	Francis W. Janney	Baltimore, Md	University of Maryland	1905	80
30			University of Maryland	1905	74 4-7
31	Verner Nisbet	Philadelphia, Pa.	University of Pennsylvania	1901	91 3-7
32	Sam H. Ezzell	Van Wych, S. C.	P. & S., Atlanta	1900	80 2-7
23			Atlanta Medical College	1898	57 2-7
34	David R. Perkins	Marshville	Baltimore Medical	1903	80 1-7
35	Rufus H. Moorfield	Vade Mecuum	N. C. Medical College	1906	80 1-7
36	Henry H. Hodgin	Red Springs	N. C. Medical College	1906	80 1-7
37			P. & S., Atlanta	1900	63 6-7
38			Grant University	1903	77 2-7
39			Tennessee Medical College	1905	75
40			Central University of Louisville	1904	43
41	Wm. E. Manville	Washington, D. C.	George Washington University	1904	90 6-7
42			University of Nashville	1900	56 6-7
43			Tennessee Medical	1894	67 1-7
44	Romulus L. Carlton	N. Wilkesboro	University of Maryland	1906	86 5 7
45	John W. Williams	Washington	University of Maryland	1906	80 6-7
46			George Washington University	1905	76 1-7
47	James M. Hodges	Banner's Elk	Baltimore Medical	1904	80
48			Southern Medical College, Atlanta	1888	67 6-7
49			N. C. Medical College	1905	72
50			N. C. Medical College	1902	75
51			N. C. Medical College	1905	73 4-7
52	Forest A. Carpenter	Henrietta	N. C. Medical College	1906	90 2 7

53				Tennessee Medical College	1901	71 6-7
54	James A. Dimmette		Wallburg	Kentucky University, Louisville	1905	83 6-7
55	Herbert H. Utley		Cardenas	Baltimore Medical	1906	80 3-7
56	Wm. Myers Hunter		Charlotte	Georgetown University	1905	85 3-7
57	Jacob P. Jarboe		Greensboro	Georgetown University	1905	80 2-7
58	Wm. L. Sheep		Washington, D. C.	George Washington University	1906	83 2-7
59	John L. Lane		Faison	N. C. Medical College	1906	88 1-7
60	Lemuel W. Kornegay		Mt. Olive	N. C. Medical College	1906	82 4-7
61				N. C. Medical College	1906	74 5-7
62	Rufus R. Morrison		Shelby	N. C. Medical College	1906	89 1-7
63	George T. Clark		Sandifer	N. C. Medical College	1906	84 1-7
64				Maryland Medical College	1905	73 1-7
65	(Failed to show up)			Medico-Chi., Philadelphia	1904	
66	Lewis W. Elias		Asheville	P. & S., New York	1903	82 1-7
67	Paul H. Ringer		Asheville	P. & S., New York	1904	86 6-7
68	Theo. Y. Hull		Asheville	Columbia	1902	83 3-7
69	Vann McK. Long		Unionville	N. C. Medical College	1906	84 3-7
70	George W. Taylor		Laurel Springs	N. C. Medical College	1906	81 2-7
71	Harry M. Jones		Franklin	University of North Carolina	1906	86 5-7
72	Wm. Allan		Lexington, Va.	P. & S., Baltimore	1906	88 2-7
73				S. C. Medical College	1906	74 3-7
74				University of Louisville	1893	65 2-7
75	Charles H. Peete		Warrenton	University of Virginia	1903	87 1-7
76	John M. Boyce		Whiteville	N. C. Medical College	1903	82 2-7
77	Wilmer L. Grantham		McDonald	N. C. Medical College	1906	80 5-7
78	Daniel T. Boger		Unionville	N. C. Medical College	1906	80
79	James C. Waddy, colored		Greensboro	Meharrie Medical College	1904	80
80				N. C. Medical College	1906	77 5-7
81				University of Tennessee	1905	62 2-7
82				Tennessee Medical College	1904	48 3-7
83				Tennessee Medical College	1904	47 1-7
84	John L. Pritchard		Aulander	P. & S., Baltimore	1906	86 1-7
85	Edwin F. Fenner		Halifax	University of Maryland	1905	80
86	Jesse W. Wilcox		Putnam	University of North Carolina	1906	85 6-7
87	Wm. S. Jordan		Raleigh	University of North Carolina	1906	85 1-7

* 1906 RECORD OF THE BOARD—CONTINUED.

Examination No.	Name.	Address.	College of Graduation.	Year.	Average Grade.
88	George A. McLemore	Parkersburg	University of North Carolina	1906	83 3-7
89	Battle A. Hocutt	Wadefield	University of North Carolina	1906	88
90	Milton M. Caldwell	Concord	Jefferson	1901	84 1-7
91	James K. Hall	Morganton	Jefferson	1904	89 6-7
92	Frank E Perkins	Copenhagen, N. Y.	University of Buffalo	1905	82 1-7
93	Donald H. Leeper	Charlotte	N. C. Medical College	1906	84 4-7
94			Knoxville Medical College	1904	68 5-7
95			Kentucky University	1904	72 6-7
96	Iva A. Yow	Sprite	N. C. Medical College	1906	83 6-7
97	Lawrence H. Coffey	Coffey's	Medical College of Virginia	1906	82 2-7
98	Claude O. Abernethy	Chapel Hill	University of North Carolina	1906	89 3-7
99			University of the South	1905	76 5-7
100	(Bogus check. N. G.)		University of Nashville	1897	75 5-7
101	James S. Rhodes	Williamston	Medical College of Virginia	1906	80
102	Looked at the application blank	and "lit out."			
103			Virginia Medical College	1905	70 4-7
104			P. & S., Baltimore	1905	65 1-7
105	Albert H. Bowers	Thomasville	University College of Medicine	1906	87 2-7
106	Oscar J. Carpening	Lenoir	University College of Medicine	1906	86 2 7
107	John T. Hoggard	Aulander	University College of Medicine	1906	82 5-7
108	Wm. W. Stancell	Margarettsville	University College of Medicine	1906	85 4-7
109	Albert DeK. Parrott	Kinston	University College of Medicine	1906	85
110	Henry C Chalmers	Woodsdale	University of Virginia	1905	80 2-7
111	Charles B. Wilkerson	Durham	University of North Carolina	1906	88 4-7
112	Logan K. Farthing	Boone	University of North Carolina	1906	90 3-7
113			University of North Carolina	1906	71 2-7

114	.....	.....	University of North Carolina	1906	71 1-7
115	.....	.....	University of North Carolina	1906	74 3-7
116	Joseph B. Ruffin	Powellsville	University of the South	1898	81 2-7
117	Thomas M. McKoy	Huntersville	N. C. Medical College	1905	80
118	Mary L. Martin	Davidson	Woman's Medical, Pennsylvania	1906	93 3-7
119	Louis C. Beall	Greensboro	N. C. Medical College	1906	90 4.7
120	Mary E. Laphan	Highlands	Woman's Medical, Pennsylvania	1900	84 3-7
121	Ang. A. McDonald	Jackson Springs	N. C. Medical College	1905	60
122	(On two papers)	.....	Kentucky School of Medicine	1893	45
123	Reuben A. Lloyd, colored	Williamston	Knoxville Medical College	1904	81
124	Lewis M. Gaines	Wake Forest	Hopkins'	1903	94 2-7
125	Joseph F. Patterson	New Bern	Jefferson	1906	91 5-7
126	Abraham H. Rose	Smithfield	Jefferson	1906	82 6-7
127	George D. Vick	Selma	Jefferson	1906	81 2-7
128	Edward B. Clement	Salisbury	Jefferson	1906	91 3-7
129	(Failed to show up)	.....	University of Tennessee	1902	
130	Joseph P. Speight	Whitakers	Jefferson	1906	88 4-7
131	James W. Tankersley	Salisbury	Jefferson	1906	93 1-7
132	Greenville R. Berkeley	Atlanta	Jefferson	1906	90 4-7
133	John R. Carr	Durham	Hopkins'	1904	90

COLLEGES REPRESENTED IN THE 1906 EXAMINATIONS.

College of Graduation.	Applied.	Passed.	Rejected.
University of Maryland	9	5	4
University of Pennsylvania	1	1	------
University of Nashville	2	------	2
University of North Carolina	11	8	3
University of Louisville	1	------	1
University of Virginia	2	2	------
University of Tennessee	2	------	2
University of Buffalo	1	1	------
University of the South	2	1	1
Trinity University, Toronto, Canada	1	------	1
Grant University	3	1	2
Howard University	1	1	------
Vanderbilt University	1	1	------
Central University	1	------	1
George Washington University	3	2	1
Kentucky University	2	1	1
University College of Medicine	5	5	------
Jefferson	12	12	------
Hopkins	2	2	------
Chattanooga Medical	1	1	------
Leonard Medical	7	3	4
Meharrie Medical	2	1	1
P. & S., Baltimore	5	4	1
P. & S , New York	2	2	------
P. & S.. Atlanta	2	1	1
Tennessee Medical	5	------	5
Baltimore Medical	3	3	------
North Carolina Medical	27	21	6
Maryland Medical	1	------	1
South Carolina Medical	1	------	1
Knoxville Medical	2	1	1
Woman's Medical of Pennsylvania	2	2	------
Medical College of Virginia	3	2	1
Kentucky School of Medicine	1	------	1
Georgetown University	2	2	------
Columbia University	1	1	------
Atlanta Medical College	1	------	1
Southern Medical College, Atlanta	1	------	1
Medico-Chi., Philadelphia	1	------	1
Total	132	87	45

Dr. Geo. W. Pressly, having recently accepted an election to the chair of Principles of Surgery in the North Carolina Medical College, tendered his resignation as member of the Examining Board.

On motion, his resignation was accepted with assurances of satisfaction on the part of his colleagues with his most excellent work both as an Examiner and as Secretary, and regrets at losing his valuable services from the Board.

Dr. Ginnada T. Sikes, of Grissom, was unanimously elected his successor to complete the unexpired term of two years.

Dr. A. A. Kent was elected President for the ensuing two years.

Dr. Sikes was elected Secretary for the ensuing two years and assigned to examine on Chemistry and Pharmacy, the chair formerly occupied by Dr. Pressly.

On motion, the Board adjourned to meet at the usual time as provided in the by-laws.

A. A. Kent, M.D.,
President.

G. T. Sikes, M.D.,
Secretary.

Report of the Obituary Committee to Fifty-Third Annual Session Medical Society of the State of North Carolina, Charlotte, N, C., May 30, 1906,

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Committee.

C. M. POOLE, K. P. BATTLE, Jr., H. H. HARRIS.

Presented in the General Meeting of the Society, and after being read and appropriate remarks being made thereon, ordered printed in the Transactions.

IN MEMORIAM.

WILLIAM HENRY HARRELL.
JULIUS ALEXANDER CALDWELL.
WILLIAM B. MURPHY.
CHARLES HENRY NARNHARDT.
GEORGE H. MORAN.
JOSEPH BRUNNER.
LEONARD P. AARON.
THOMAS HILL.
CHARLES T. HARRIS.
ROBERT CALDWELL PEARSON.
JOHN B. BROWN.
WILLIAM W. COZART.
JOHN F. MILLER.
H. J. THOMAS.
JOHN HODGES DRAKE.
WILLIAM EDGAR HEMPHILL.
CHARLES J. CARSON.
J. RUSSELL PALMER.
JOHN BERRY.
DAVID WORTH.
J. LINWOOD GUNN.
A. M. WHITSETT.
GEORGE W. YOUNG.

Necrology.

Dr. WILLIAM HENRY HARRELL.

Dr. W. H. Harrell was born in Williamston, N. C., Sept. 24, 1864, and died Nov. 26, 1905, being in his 42d year.

Dr. Harrell spent all his life in the community where he was born. His boyhood was spent clerking in the store of Jno. D. Biggs & Co. where he was quite popular and became acquainted with nearly every man, woman and child in that whole country for miles around. He graduated from The Medical College of Virginia in 1885, and was licensed by the Board of Examiners of this State at Durham the same year. He soon acquired quite a large and lucrative practice among the people with whom he had such an extended acquaintance. He was a good physician and very popular with the people at large. He was also a Mason and was very popular with this order. He made money and spent it freely, being kind to the poor and distressed. He gave freely of his means and his services to those in need. He joined the State Medical Society in 1890, and a few years later was given a place on the State Board of Health, which place he filled acceptably for several years. He was also County Superintendent of Health for his county for twelve or fourteen years. He married Miss Bettie Moore, eldest daughter of Hon. Jas. E. Moore, of Williamston, and from this union he has left the devoted widow and two children, William H. and James Edwin.

In the death of Dr. Harrell the town and community have suffered a great loss. He will be missed by a large number of friends and relatives, as was attested by the large attendance at his funeral. He was buried in the new cemetery at Williamston by the Masons, of whom there were more than two hundred present.

Dr. JULIUS ALEXANDER CALDWELL.

Dr. J. A. Caldwell, Sr., was born in Salisbury, N. C., Feb. 9, 1830, and died Dec. 21, 1905. He was a son of Judge David F. Caldwell and Fanny McCoy Alexander.

After obtaining a thorough literary course at the University of N. C., he attended medical lectures in Charleston, S. C., and later went to Philadelphia, graduating from the University of Pennsylvania in 1854. He located in Lincolnton, where he practiced for several years. At the outbreak of the war he was commissioned assistant surgeon of the Sixth North Carolina regiment, and was at the first battle at Manassas. Was later appointed post surgeon in Salisbury and held that position until the end of the war. After the war he located in Salisbury and was at one time associated with the late Dr. Marcellus Whitehead. He

began practice when twenty-five years of age, and combated disease with a skill that marked him as one of the safest physicians in the country. Forty-one years he gave to alleviation of earthly ills, and had he been rewarded by his clientele as devotedly as he gave his services to them he would have died a rich man. Hardly any physician did the charity work that attended his ministrations. Ten years ago the approach of old age, made severer by the enormous amount of hard work that he was doing, told so visibly upon him that he was forced from active work, and since that time he has spent nearly all of his life indoors with his family, the first real home-life he enjoyed from his labors.

Dr. Caldwell is survived by Mrs. Caldwell, who was Miss Fannie Morgan Miller, of Winchester, Virginia. They were married in 1864, and to them were born four children, all of whom are survivors of their distinguished father. They are Mrs. Dr. W. W. McKenzie, Miss Fannie Caldwell, Dr. Julius Caldwell, of Salisbury, and Capt. A. H. Caldwell, of Georgia.

Dr. Caldwell was in religion an Episcopalian, and was as devoted to his church as an active life would allow.

The passing of this distinguished physician, citizen and man will be a sorrow to everyone who knew him. Peace to his ashes.

Dr. W. B. MURPHY.

Dr. W. B. Murphy died at his home in Sampson County August, 1905. He was the best type of the Sampson County gentleman, and there are better men to be found nowhere. He stood well in the profession of his choice and always seemed intensely interested in the affairs of his county and State. When duty called he was ever ready to make any sacrifice for the betterment of his people, although such had to be done at his own financial loss.

Dr. CHARLES HENRY BARNHARDT.

Dr. Chas. H. Barnhardt was born near Mt. Pleasant, N. C., July 9, 1866. He died of pneumonia at his home in Mt. Pleasant Feb. 6, 1906. He was educated at North Carolina College, graduating with some distinction in the class of 1892. He was a graduate in medicine of the Jefferson Medical College, of Philadelphia. He at once located in Mt. Pleasant, where he enjoyed a large practice for nearly eleven years. He was universally popular as a physician, and soon proved himself to be of marked ability. He was full of energy, and often looked after his patients when he was not physically able to do so. The day before he took his bed he watched by the bedside of a patient when his own temperature was one hundred and four. He was prompt to attend all calls, night or day, to rich or poor.

Dr. Barnhardt was converted and joined the Methodist Episcopal Church South when quite a small boy, and remained faithful to its

obligations until the day of his death. He loved his church and for years had been an official member, filling some responsible positions.

He was married to Miss Ella L. Ridenhour August 21, 1895, who died April 23, 1902, leaving three children.

On May 20, 1903, he married Miss Agnes Barringer, who, together with one child, survive him.

Dr. Barnhardt was a member of the Cabarrus County Medical Society and a member of the Medical Society of the State of North Carolina. He was a faithful member of these organizations and always did what he could to advance the interests of the same.

GEORGE H. MORAN, M.D.

Dr. George H. Moran was a native of the city of Baltimore, reared and educated in Baltimore County, Maryland, and graduated at the University of Maryland with the class of 1865.

He became immediately acting assistant surgeon U. S. Army, and saw service at Fort Monroe, Petersburg and elsewhere for a year, when he entered civil practice in the city of Baltimore, holding several appointments under the city government in the sanitary department. After eight years he again entered the army service and was at several posts, in the East and West, coming to Morganton with troops sent there to look after the illicit distillers.

After leaving Morganton he resigned from the army, and returned there to take up private work in 1881, remaining in active practice up to the time of his death.

Soon after settling in Morganton he married there, and is survived by his widow, a son and two daughters.

Dr. Moran was a man of wide information; he was a sportsman, very fond of nature and an extensive reader in all fields of good literature. He never forgot his army training and was prompt and accurate in all his engagements. He kept abreast of the advances in the profession and was the closest adherent to the letter and spirit of the Code of Ethics.

Many years ago he connected himself with the Presbyterian church, and was a faithful attendant and officer.

He became a member of the North Carolina Medical Society in 1888, and was the first President of the Burke County Medical Society under the new plan of organization.

After a brief illness he entered into rest June 23, 1905. His loss is still keenly felt for he was a good citizen, was independent and always stood for what he thought was right. As a physician he endeared himself to his patients. As a friend he was above all the little things of life and could be depended on in all emergencies.

Dr. JOSEPH BRUNER.

Dr. Joseph Bruner, of Matthews, Mecklenburg County, died suddenly May 2, 1906, while administering a dose of medicine hypodermically to a patient to whom he was called at 4 o'clock a. m. The collapse came suddenly, Dr. Bruner falling dead beside his patient's bed just as he inserted the needle into her arm.

Dr. Bruner was one of the best known physicians of Mecklenburg County, was a member of the Mecklenburg Medical Society and a member of the State Medical Society. He was a surgeon in the Civil War and was a man of wide influence.

Dr. LEONARD P. AARON.

Dr. Leonard P. Aaron was born in the town of Warsaw, Duplin County, October 17, 1873. He died suddenly of heart failure at his home in Mt. Olive on February 15, 1906.

Dr. Aaron came to the county of Wayne and town of Mt. Olive when a small child, and this has been his home practically all his life. He was the son of State Senator D. J. Aaron and was the last of his only two children. Besides his father and mother, he leaves a devoted wife to mourn his loss. He was twice married and died childless.

His education was obtained in the Mt. Olive graded schools and Oak Ridge Academy. He pursued the study of medicine at the North Carolina Medical College and the Medical Department of the University of Maryland, graduating at the latter institution in 1895. He took a post graduate course at the Johns Hopkins University, pursuing special studies in the throat and nose work. He settled in Mt. Olive for practice in 1896, and joined the State Medical Society in 1897.

Dr. Aaron built a practice very rapidly and was popular as a physician, but in a few years he abandoned active work to attend to his drug business and other interests and do an office practice. He was conscientious in his professional work, careful as to details and successful in practice.

He was a charter member of the County Association in which he took considerable interest, ever supporting the idea of professional organization as a means of advancement to the physician in his work, in the influence to be exerted upon the public and in the pecuniary interests involved. He attended every meeting of the State society from the date of his entering until his death, and was the Chairman of Section on Practice in 1904.

To know Dr. Aaron was to like him. There was a personal magnetism or something attractive about him that made him a universal favorite. This was pronounced in his whole life, as a boy, man and physician. Large of frame, his heart was equally large, and as warm and true to his friends as it was large. He was whole-souled and broad-minded, generous to a fault and ever faithful in all his dealings.

Dr. THOMAS HILL.

Dr. Thos. Hill was born in Sampson County, North Carolina, on the 26th of October, 1832. He died February 18, 1906. After leaving the University of North Carolina in his junior year he read medicine in Wilmington with Dr. James F. McRee, and attended the lectures in New York, graduating at the University of New York in 1854. He settled in Salisbury, N. C., for the practice of his profession, where he married Miss Mary C. McConnaughey, who survives him. He afterwards removed to Smithville (now Southport), where he practiced until the breaking out of the war.

On July 21, 1861, he was commissioned assistant surgeon of the Confederate States Army and was placed in charge of a general hospital at Fredericksburg, Va. In March, 1862, he was placed in charge of the general hospital at Goldsboro, N. C. On May 12, 1862, he was commissioned surgeon Confederate States Army and placed in charge of general hospital No. 8 (Peace Institute, Raleigh). In March, 1864, he was ordered to the 40th Regiment North Carolina State troops stationed on Bald Head Island at the mouth of the Cape Fear River. In December, 1864, he was appointed chief surgeon North Carolina reserves on the staff of Gen. T. H. Holmes, which position he was holding at the time of the surrender in 1865. After the war he settled in Kenansville, N. C., practicing his profession until 1871, when he moved to Danville, Missouri, where he practiced for several years. He moved to Goldsboro in 1880, practicing there until his death, Feb. 18, 1906. He was elected several terms Coroner of Wayne County, which office he held at the time of his death.

Dr. Hill was a member of the State Medical Society, having joined in 1880, and was one of the Vice-Presidents in 1893. He went into the organization of the County Association, but not approving of the plan as adopted for the general organization of State and county societies, he withdrew, refusing to have anything whatever to do with it. While we may not endorse his judgment, we can but admire his courage in the position he took in the matter. This, though, was characteristic of the man; he dared to follow his convictions regardless of policy or public opinion; it was the loadstone of his life, his guiding star. To know his duty was to do it. He was a man without guile, of positive opinions and independent views. In practice Dr. Hill could well be considered a well-equipped, all-round family physician, doing as he did a general practice. He was impatient of all fads and innovations as much, wanting to be well assured that any measure introduced into the practice of medicine was founded upon merit rather than novelty. He believed in the powers of medicine, and was especially interested in the native herbs and their medicinal qualities, many of which he specially studied. He left quite a collection of the wild medicinal plants of the eastern part of the State.

Dr. Hill lived the allotted time of three-score years and ten—years full of trials and difficulties, full of labors and toils, full of sacrifices for others and meriting the respect of the community, which was so freely given. He was not brilliant in medicine in the general acceptation of the word, but was a safe adviser, steady in purpose, doing his duty day by day as he saw it, careful in his daily life to bring no reproach upon the profession and exemplary as a man and citizen.

(The Committee is indebted to Dr. J. D. Roberts, of Mt. Olive, for the last two obituaries, they having been prepared by him to be presented to the Wayne County Medical Association at its next regular meeting in June.)

Dr. CHARLES T. HARRIS.

Dr. Chas. T. Harris died of typhoid fever at Roxboro, N. C., July 6, 1905. Dr. Harris graduated in 1903 from the Baltimore Medical College and obtained a license from the State Board the same year. He was located at Bethel Hill, where he enjoyed quite a nice practice for a young man.

Dr. ROBERT CALDWELL PEARSON.

Robert Caldwell Pearson, M.D., was born at Morganton, N. C., March 21, 1837. He was educated in the schools of the town and Bingham's, afterward at the University of North Carolina; and in medicine he attended lectures first at The University of Pennsylvania, taking his degree in medicine at the University of the city of New York. Graduating soon after the establishment of the State Board of Medical Examiners, he was among the first to stand the examination and receive the license.

Upon the opening of hostilities between the States he became assistant surgeon in the 58th North Carolina regiment and saw service in various capacities throughout the war. In an expedition of the Home Guards against Kirk's army about the close of the war, he accompanied the Home Guards as surgeon, and in an engagement at Brown Mountain he was wounded in the knee, from which he was permanently lamed.

At the close of the war he settled in Morganton and practiced his profession there continuously, until forced, on account of impaired health, to retire some years prior to his death. After a short illness he died at his home, surrounded by his family, January 28, 1906.

Dr. Pearson was a man of brilliant mind, with a good knowledge of the fundamentals of medicine; he was a good practitioner and did a large practice for many years. With an unbounded charity he was at the call of rich and poor and won a place in the hearts of all the people.

With fine literary taste he was a man of broad culture, a charming conversationalist and companion.

JOHN B. BROWN, M.D.

Dr. J. B. Brown was born near Red Springs, Robeson County, May 20, 1836, and died at Leesville, N. C., Dec. 31, 1905.

Dr. Brown first studied medicine with Dr. Hector McLean, of the old Robeson Medical School. He then spent one year prosecuting his studies at Castleton, Vermont, and graduated from the Medical College of the State of South Carolina.

Dr. Brown located at Leesville in 1860, and for forty-six years faithfully practiced his profession in this and adjoining communities. He was one of the best known and most loved men of Robeson County, always relegating personal interests to the background, and doing all in his power for rich and poor alike.

He was twice married, first to Miss Martha V. Ashley, who died young, leaving him two sons. He then married Miss Fannie Pittman, who faithfully nursed him through his long, painful illness and who survives him.

He was for many years a ruling elder in the Presbyterian church and was always devoted to his church and all good works.

He was a member of the Robeson County and the North Carolina State Medical Societies.

Dr. W. W. COZART.

Dr. W. W. Cozart, son of James C. and Jane Cozart, was born Nov. 9, 1832. He was born and reared in Greenville County, near Tally Ho. He received his literary education in the schools near his father's home; principally Tar River Academy. When he was twenty-one years of age he went to Washington, Georgia, and clerked for his uncle, who was a wealthy dry goods merchant of that place. Returning to North Carolina in 1853 he began the study of medicine with Dr. Russell, of Tally Ho. He was a student of medicine at the University of Pennsylvania in 1854-5, and graduated from the Medical College of the State of South Carolina in March, 1856.

Dr. Cozart began the practice of medicine at Knap-of-Reeds in 1856, but removed to Dutchville in the fall of 1857, where he lived and did a large practice until his death, which occurred April 7, 1906.

On February 11, 1857, he married Miss Mary E. Jones, who died Sept. 26, 1869, leaving one child, Bernard Cozart. On Jan. 25, 1879, he married Miss Emma A. Lyon, of Dutchville, who, together with four children, survive him.

Dr. Cozart was one of the kindest of men, and always met his family with a smile. He was candid and free from deception, plain and straightforward in all his dealings with his fellow-men, but not requiring of others justice to himself. He did a great deal of work for which he was never paid, and it has been said of him that no physician ever did more charity practice than he.

He was a great reader and possessed a retentive memory, could repeat readily every county seat in the State. He was fond of music and loved good music to the day of his death. He was fond of poetry and there could be no more fitting eulogy to Dr. Cozart than that penned by Tennyson, as follows:

"We have lost him: he is gone:
We know him now: all narrow jealousies
Are silent; and we see him as he moved,
How modest, kindly, all-accomplished, wise;
With what sublime repression of himself,
And in what limits, and how tenderly;
Not swaying to this faction or to that;
Not making his high place the lawless perch
Of wing'd ambitions, nor a vantage ground
For pleasure; but through all this tract of years
Wearing the white flower of a blameless life."

Dr. JOHN F. MILLER.

Dr. Jno. F. Miller was born in Cleveland County Dec. 25, 1834, and died at Goldsboro Jan. 9, 1906. The fatal malady was heart disease, from which he had been suffering slightly for some time.

Dr. Miller was of old and distinguished ancestry on both sides, and was related to a great many of the leading people of Western Carolina. He was educated at Chapel Hill, the State University, where he took a fine stand. He began the study of medicine under his father, a prominent physician of Cleveland County. Took his first course of lectures at the Medical College of the State of South Carolina, and his second course at the Jefferson Medical College of Philadelphia, where he took his degree in 1858. After his graduation he practiced with his father until the beginning of the war between the States. He promptly enlisted in the first company raised in his county, and on April 24, 1861, left for the seat of war. He had enlisted as a private, but after one month's service was appointed assistant surgeon of the 12th North Carolina regiment. In June, 1862, he was promoted to the rank of surgeon, and assigned to the 34th North Carolina regiment. He held this position two years, and was then appointed one of a commission of three to inspect hospitals for the army of Northern Virginia. When this work was completed he was appointed chief surgeon of the Department of Eastern North Carolina and Southern Virginia which position he held until the close of the war.

On September 21, 1863, he married Miss Sarah L. Borden, of Goldsboro, N. C. In 1865 Dr. Miller located in Goldsboro and began the practice of his profession. He soon built up a very large and lucrative practice, which he held until he was elected Superintendent of the State Hospital at Goldsboro December, 1887. He took charge of that institution Jan. 1, 1888, and for more than eighteen years carried on the

work with great success. He threw his whole soul into this work, impressed the needs of this hospital on his different boards of directors and the Legislature, and thereby obtained the means to add building after building, until from accommodations for less than two hundred patients when he took charge, he had provided comfortable rooms for more than six hundred of the poor colored insane of North Carolina. His desire was to supply them with the best treatment and every comfort and need, and thereby restore as many of them as possible. Dr. Miller was one of the most liberal of men, but in public expenditures he was a strict economist and saw to it that nothing was wasted.

He was a member of the Wayne County Medical Society, the Medical Society of the State of North Carolina and of the American Medico-Psychological Association. He attended the meetings of these respective societies—often contributing papers to them, or took part in the discussions, and always with great credit to himself. He was endowed with a fine mind, which he had assiduously cultivated. He was a true friend and his hospitality was unbounded. He was never so happy as when his home was filled with his friends. He took great interest in young men starting out in life, and the needy ones he was ever ready to aid with his means and sound advice. In every public, moral and religious cause Dr. Miller was a leader, and he contributed freely to them of his time and his talents and his means. Probably no physician in the State had more friends or more acquaintances among the leading men of every profession and calling than he. In his early manhood he joined the Methodist church and was ever after a faithful and consistent member. Although the summons came without warning it did not find Dr. Miller unprepared. He lived every day as if it were his last. His life was as near perfect as is given to mortals. His faith in God was as free from doubt as that of a little child. He was "an Israelite indeed in whom there is no guile." Big of body, big of brain, big of heart, he embraced all men in his love and in his regard, and conceded to every man the right of his convictions. He must be written down as one who "loved his fellow-man," walked uprightly and served his Maker with singleness of purpose. His faith in God, his long leadership in his church, his prayers and words of Christian comfort in the homes of sickness or death, his devotion to the treatment of the colored insane, his exemplary life as a man and as a public officer gave him a place in the hearts of the people that will abide.

Dr. Miller lived beyond the three-score and ten, and of him we may truly say that his life may be held up as the best example in the flesh for the emulation of young physicians everywhere.

Dr. H. J. THOMAS.

Dr. H. J. Thomas was born in Delhi, N. Y., July 26, 1850, and died at his home in Winston-Salem, Nov. 29, 1905.

A severe attack of pneumonia, which developed one week prior to

his death, was the immediate cause of his death, but he had been in failing health for some time.

For fourteen years Dr. Thomas had been a resident of Winston-Salem, and during that time he had built up a large practice and won a warm spot in the hearts of all who knew him.

In 1853 he moved with his parents to Wisconsin, where he grew to manhood. He then enlisted in the United States Navy and served as hospital steward through the war between the States. At the close of the war he moved to Chicago, where he was living at the time of the great fire of 1871. In 1873 he was graduated from the Rush Medical College, of Chicago, being one of the class with Dr. Nicholas Senn, one of the most prominent medical men of the country. After graduation Dr. Thomas moved to Milwaukee, Wis., where he lived until fourteen years ago, when he came to Winston-Salem.

During the Spanish-American War he enlisted in the army medical branch and was detailed for duty at Santiago. Later he was sent to Montauk Point, N. J., where a camp for returned soldiers was established.

Dr. Thomas was a Mason, and was buried with the honors of that order.

Dr. J. HODGES DRAKE.

Dr. J. H. Drake died at his home on Sunset Drive, Asheville, N. C., Dec. 14, 1905. He was 36 years of age and had been living in Asheville for the last five years, coming from Opeleika, Alabama, for his health. He was associated in the practice of medicine with Dr. J. A. Burroughs and was much loved by all who knew him. He belonged to quite a number of different lodges and his remains were taken in charge by the Masonic Order at the request of the Mt. Hermon Lodge, and sent to Opeleika for burial.

Drs. Burroughs, Hall, Reynolds, Dunn, Ambler accompanied the remains to the railway station as pall-bearers.

Dr. WILLIAM EDGAR HEMPHILL.

Dr. William E. Hemphill, of Arden, N. C., died at Biltmore Hospital Dec. 25, 1905, following an operation for appendicitis, which, in turn, had followed a long and serious illness. He was County Coroner, and was one of the best known and most esteemed physicians in the county. He was twenty-five years of age, and was regarded by his associates as a man of very bright mind. He was born in Swannanoa in 1870. He graduated in medicine from a Baltimore Medical College in 1896 and at once located at Arden, where he enjoyed a large practice.

About a year ago Dr. Hemphill was attacked with appendicitis which resulted in septicaemia, and for many months he lay between life and death. His strong constitution saved him from death during the critical stage of his illness. Finally he was able to come to town and pre-

pare to spend the winter in Florida, when it became necessary for him to undergo an operation. Having been so much weakened and depleted by his former illness he had no power of resistance and succumbed to the operation.

At his funeral the ball-bearers were: Dr. Fletcher, Dr. Whittington, Mr. Blake, Mr. Haywood, Mr. Pelton, Mr. Rickman, Mr. Reagan. The impressive service of the Episcopal church was read with deep feeling by the Rev. Mr. Wetmore, rector; and the choir of youths from Christ school, near Arden, united with that of the church in rendering with great beauty the funeral hymns.

Following a habit in this community the walls of the grave had been lined with laurel leaves by friends, and the grave, when completed, was covered with garlands of holly, the dark green leaves and red berries making a bed for the flowers which friends had brought.

The feeling which permeated the mass of human beings assembled from all sides, was of deep and poignant regret, that a man in the prime of life and of such supreme usefulness should have been thus cut off.

Every man, woman and child at this funeral, rich or poor, who had come to bring a last tribute of grief, had been the object of his kindness and devotion, and realized full well that with a few years of well-spent endeavor Dr. Hemphill had laid down his life for his friends.

Truly "The tears which the good save from falling in their lives are shed over them when they are dead."

Dr. C. J. CARSON.

Dr. C. J. Carson was born at Taylorsville, N. C., in 1859, and died February, 1906; aged 47 years.

He was educated in the schools of his community, and attended medical lectures at the College of Physicians and Surgeons of Baltimore. Dr. Carson was respected in the community in which he lived and was much interested in the organization of his County Medical Society. He was twice elected to the State Legislature and served his county with credit to himself and constituents. He was twice married, his last wife and one son surviving him. He was always a busy practitioner, a man much loved by everybody and respected by his fellow physicians. He was one of the best equipped men in every respect.

Dr. RUSSELL PALMER.

Dr. J. R. Palmer was born in Warren County and died at Hookerton, N. C., Dec. 9, 1905. He was quite prominent in his county, but in the latter part of the summer of 1905 he suffered a severe attack of typhoid fever and he has not been able to do much professional work since. He was buried in the family burying ground in Six-Pound Township, near Warrenton. He leaves a wife and several children besides brothers and sisters.

Dr. JOHN BERRY.

Dr. John Berry was born at Hillsboro, N. C., and died suddenly at Chapel Hill March 6, 1906. He had been a sufferer with heart disease for some time, and the end was nardly unexpected.

Dr. Berry was a retired physician and was much respected by all who knew him.

Dr. DAVID WORTH.

Dr. David Worth, son of Job Worth, was born at Greensboro 1839, and died at Pilot Mountain, N. C., November, 1905. He was educated in the schools of his neighborhood and at Guilford College. He read medicine with Dr. Joseph Hollingsworth, and graduated from the Jefferson Medical College in 1866. He located and practiced at Kinston for some years and then removed to Surry county, where he practiced until his death. He stood well in the profession and did quite a large practice. His fatal malady was diabetes.

Dr. J. LINWOOD GUNN.

Dr. J. L. Gunn, a well-known physician of Caswell County, died suddenly Feb. 23, 1906. In making a professional call Dr. Gunn was thrown from his buggy and his neck was broken. Death was instantaneous.

Dr. A. M. WHITSETT.

Dr. A. M. Whitsett, a wealthy and influential citizen, died at his home in Reidsville, March 24, 1906. He was born in Rockingham County, N. C., and was educated at Trinity College. He graduated from Jefferson Medical College in 1870, and at once located in Rockingham for the practice of his profession, where he remained for fifteen years. He then removed to Reidsville, where he practiced for three years. He then retired from the practice of medicine and engaged in the mercantile business, also in manufacturing tobacco. Finally he turned his attention to farming, from which he realized quite a nice income. He was a vestryman in St. Thomas' Episcopal church and was one of Reidsville's best citizens.

Dr. GEORGE W. YOUNG.

Dr. G. W. Young, a practicing physician, died at his home in Brevard, N. C., May 1, 1906.

The Annual Dinner.

On Wednesday at 10:30 p. m. the members of the State Medical Society, and visiting physicians from other States, were the honored guests of the Mecklenburg County Medical Society and the citizens of Charlotte at a most sumptuous banquet. The affair was held in O'Donnaghue Hall, the handsome building donated to the city of Charlotte by one of its former illustrious citizens and an honored member of the Medical Society, the late Dr. Dennis O'Donnaghue. The efforts of the ladies of Charlotte had been unsparing in the elaborate and artistic decorations to be seen in most delicate and appropriate arrangement.

Covers were laid for six hundred, and the seats were filled by the visiting doctors and their friends, the local doctors, and distinguished citizens of Charlotte. An attractive menu was served in proper courses, followed by the post-prandial orations as delineated in the appended programme. However, words in "cold type" can but feebly portray the dazzling beauty of the brililantly lighted and spacious hall with its exquisitely arranged tables, around which were gathered in most charming and agreeable vein the "four hundred" of North Carolina Medicine! The undivided attention of the "four hundred" were given for a few short, fleeting hours to the discussion of the substantial viands so delicately prepared for the delectation of the material man, to the enjoyment of music of the sweetest strains floating in upon the air, to the pleasingly agreeable conversations of our fellow Esculapians under the gentle stimuli of the all-pervading atmosphere of good-fellowship prevailing, and to a kindly appreciation of the brilliant thoughts, the radiant suggestions, the scintillating witticisms, and the empyrean flights of the distinguished orators of the evening.

It is superfluous to say that the well known and justly famed reputation of the Mecklenburg people and the Charlotte doctors as most hospitable entertainers was never more fully sustained than on this memorable occasion, and the visiting physicians from over the State, and from sister States, were profoundly impressed with the fact that the Charlotte profession had, with the Annual Dinner, as with every other feature appertaining to the fifty-third annual meeting of the Medical Society of the State of North Carolina, scored a complete success, and contributed their more than full share towards making the 1906 meeting not only numerically the largest attended and with the largest number of papers ever presented, but with a professional *esprit de corps* manifest on every hand to an extent never before surpassed in the history of North Carolina Medicine.

Banquet North Carolina Medical Society, Charlotte, N. C., May 30, 1906.

MENU

MANHATTAN COCKTAIL

SMITHFIELD HAM, CHAMPAGNE SAUCE

TONGUE — POTATO SALAD

CHICKEN SALAD — STUFFED EGGS, A LA CREOLE

MARYLAND BISCUIT — BREAD

OLIVES — PICKLES

TOMATO, MAYONNAISE

MUMM'S CHAMPAIGNE

NEOPOLITAN ICE CREAM — CAKE

COFFEE

CRACKERS — CHEESE

CIGARS

TOASTS

"Our State Medical Society"..Dr. James A. Burroughs, Asheville, N. C.

"The County Medical Society"....Dr. C. A. Julian, Thomasville, N. C.

"Medical Examining Board of North Carolina,"
Dr. C. O'H. Laughinghouse, Greenville, N. C.

"The Board of Health of North Carolina,"
Dr. J. Howell Way, Waynesville, N. C.

"The Doctor as a Civilizing Force"..Dr. Plato Durham, Charlotte, N. C.

"The Specialists".....Dr. H. A. Royster, Raleigh, N. C.

"Southern Medical Literature".....Dr. R. L. Gibbon, Charlotte, N. C.

"The Fads in Medicine"....Dr. Cyrus Thompson, Jacksonville, N. C.

"The Age of Medical Research"..Dr. John R. Irwin, Charlotte, N. C.

"The Doctor—the Greatest Hero of the Ages,"
Dr. L. B. McBrayer, Asheville, N. C.

"Southern Medical Schools".....Dr. J. P. Munroe, Davidson, N. C.

"Hospitals of North Carolina".....Dr. Albert Anderson, Wilson, N. C.

"Medical Jurisprudence".....Mr. D. B. Smith, Charlotte, N. C.

"Our Ancestors and Ourselves".....Mr. W. C. Maxwell, Charlotte, N. C.

"What the South Has Done for Surgery,"
Dr. D. T. Tayloe, Washington, N. C.

Dr. R. J. Brevard, Toastmaster.

President's Address.

THE IMPORTANCE OF ESTABLISHING A HIGHER STANDARD OF PRELIMINARY EDUCATION FOR STUDENTS OF MEDICINE.

BY EDWARD C. REGISTER, M.D., CHARLOTTE, N. C.

Mr. Chairman, Ladies and Gentlemen:

The eminent men who, through your confidence and through your courtesy and good will, have been permitted to occupy this position, have referred to the honor of this office, to the responsibilities attached to it, and, most feelingly, to those who have preceded them.

When I recall to mind these beautiful references, when I think of the brilliant men who have been president of this Society, men who have preceded me, I feel more than ever my anxiety and my timidity, the need of your assistance and your advice. There has never been a time in the history of this organization or in the history of Medicine when medical progress was more active than it is now, when facts and theories were appearing so fast. One is startled at what he has missed if he fail to read Medical Journals and attend Medical Society meetings for only a few months.

Since the relation of bacteria to disease has been discovered much of pathology has been revolutionized and many changes in the treatment of medical and surgical cases have followed. Our ability to observe has been greatly aided by the numerous mechanical and physical means now at our disposal. With these means a correct diagnosis of many diseases once obscure is now easy, their pathology understood and the treatment simplified and effective. Chemical discoveries are now throwing new light on many physiological processes and appropriate therapeutic agents are fast multiplying. Specialists in the several branches of medicine and surgery are being developed and fostered; they have their organizations

and departments of investigation; they are achieving results that arouse our admiration and enthusiasm. Without their skill and without their accomplishments many cases would be neglected and many lives sacrificed that are now relieved and made strong.

Within the past two decades, through the aid and influence of a few of our great men, many special facilities for original research have been established. We can think of no beneficence from which greater good can emanate than from laboratories and establishments of this kind where scientific principles are coined and where we have a basis to achieve a more perfect technical development. For several years the activities of the medical profession have not been confined to medical principles alone. We find that through the influence of medical organizations like this and through their energy and wise direction many laws for the protection of the public and for the prevention of many kinds of disease and for the care and cure of the afflicted have been enacted. Scattered through nearly every paragraph of these enactments we see evidences that our legislative committee has done a great deal to elevate the standard of medical education, to make effective our sanitary and quarantine regulations and prevent the adulteration of food and drink and to care for the insane and feeble minded.

It has occurred to many of us, no doubt, that our lay friends, the general public, do not, every time, understand our efforts, the high motives of physicians, or appreciate their sacrifices. Prominent officials sometimes depreciate our work and do not interpret correctly our motives. It would be much better for the people of the State if some of our judges could be made to believe that our methods tend to better principles, to higher ideals, and to a more perfect professional development.

My address, therefore, will, in a way, deal with the relation of this Society to the people of the State.

Socially, and in a way professionally, each of us establish our own social and professional position:—this we will not discuss. It is our relation to the State collectively as a body that we are especially interested. Our united efforts, which are the efforts of this body, have accomplished a great deal.

In 1858 our General Assembly enacted a law creating the Board of Medical Examiners of North Carolina and entitling only licensed physicians to testify in our courts, as experts. This was the beginning of medical legislation in this State.

In 1885 the law was amended in such a way that it was a misdemeanor to practice medicine in the State without first obtaining a license from our Medical Examining Board, and in 1899 all applicants for examination before this Board had to possess a diploma from a reputable medical school.

The establishment of a Board of Health with sanitary and quarantine regulations are still further evidences of the important relations we have created, and that now exist, between this Society and the people of this commonwealth.

While we have through this body brought about these essential relations we are still far from an ideal relationship. When a member of the Medical Examining Board I noticed, and my associates on the Board also observed, that a very large per cent. of the applicants for license showed many evidences that they were not primarily prepared to begin the study of medicine. Many of these young men seemed to be competent professionally and well trained technically, but their literary, pre-medical qualifications were very defective. It was perfectly plain that we were admitting, to what we always considered a learned profession, men who were not learned, men who were not educated, and men who will, with a notable exception occurring now and then, go through their professional lives laboring under many disad-

vantages. They are unfit to represent the profession before the people. They can not, and never will, conceal their literary defects. They have not the kind of knowledge to recognize their mistakes, in themselves. Their efforts will always be depreciated and they will never have the applause and the support of the thoughtful and cultivated.

The medical profession of North Carolina, if it wants to keep in line with other states and other countries, ought to undertake to correct these defects in our system; legislative changes should be advised. We need, and it is practical for us to have, medical laws created that will provide that it shall be essential for a young man beginning the study of medicine, or before he can obtain his license, to have an essential, non-professional knowledge, certainly to the point where he can speak and write the English language correctly.

The Council of Medical Education, created by the American Medical Association, has made many valuable suggestions concerning the reforms necessary in medical training, particularly that which pertains to the elementary qualifications of medical students. This Council has had several conferences with delegates from the different states and territorial licensing Board, representatives from the associations of medical colleges, from the Government medical services, and eminent men who represent colleges of the liberal arts. These conferences have been well attended and they have been regarded as a distinct success. At the Chicago Conference held some time ago reports of several committees on preliminary education, on accessory technical studies, were read to furnish a basis for discussion. As a result of these discussions the American Medical Association, at its approaching meeting in Boston, will very likely take steps to encourage the creation of laws in each state that will provide that all students beginning the study of medicine shall have at least a high school education, or such training as will admit them to our recognized Universities, these qualifications to be

passed on by specially designated State authorities, such as the Superintendent of Public Instruction, or his representatives, and not by the faculty of a medical school. This is what we want here in North Carolina; it is what we need, and we ought to make the change without the suggestion or aid of outside influences.

This Council wisely concludes after carefully considering the matter that a discussion or reciprocity is not at this time advisable. There is not so much difference between the technical qualifications required by the different examining Boards of the different states as there is in the minimum standard of the entrance examinations in the different schools.

The chief functions of all important Medical Associations should be the elevation of medical standards, the promotion of a higher professional education, and it should be the avowed purpose of this Society to secure within a reasonable time as high a minimum standard of medical training as that of any state or any country in the world. Our position as a civilizing power and our position in commerce and our relation to the arts and to the sciences demand this of American medicine. An elevation from the present condition to a higher minimum standard that we advise, ought to be brought about slowly in justice to all concerned.

Many of us have been taught to believe that North Carolina is in the lead of all other states in perfecting legislative enactments bearing upon the practice of medicine, and that the United States is leading the world in medical progress. This may be so in many departments, but it is not so in others. These changes that I have roughly outlined are already practical laws in several states. These ideas were not original with these people. They got them from other countries. There is not a nation in the world that pretends to be civilized that does not have a system to determine when a young man is capable of beginning his professional train-

ing. Even Japan many years before she was considered civilized by our international legations, had a system that clearly set forth the conditions, with which all who contemplated the study of medicine had to comply. And Russia, a country that has, according to our advices, a very unstable and corrupt government, is well regulated along these lines. Why is it then that our people, who are so progressive and so energetic, a class of people who easily lead the world in commerce, in great financial enterprises, should be so indifferent to measures that are valued so highly by the same class in nearly every other country?

In the United States there has been a tendency for many years to increase the time devoted to medical training proper. This inclination has not been confined to medicine alone, the same influence has been noticed in all the professional schools. Possibly it is equally as conspicuous in the various lines of engineering and technology, or the departments that equip men for work in trade or commerce. In all these spheres of human activity the influence of modern scientific studies have been felt. If the physician wishes to obtain a perfect technical development, if he desires to keep in touch with the progressive ideas that are so much in evidence in all of the other professions, if he intends to be familiar with, and master the methods and principles of medicine and surgery, and if he expects to be able to think and to grasp complicated ideas, to be a leading citizen and a scientific physician, his training must be thorough, and it can not be thorough unless he has a general and liberal knowledge prior to the study of medicine. Of all the students and members of the so-called learned professions, it is necessary for the physician to be trained in more kinds of scientific study than any other man. To begin with: he must know the English language; he ought to have a knowledge of the classics, and he must know something of Physics and a great deal about Chemistry, and, technically, his studies must include many different

sciences. Every advance in any of the sciences of medicine or surgery increases the importance of a more perfect preliminary qualification. There is a belief, that may be correct, that this training, which seems to be so essential to the successful practice of medicine and surgery, has, in many parts of the country and among some of the students of this State, reached a satisfactory point. This conclusion is plausible when we think of the time that must be devoted to the study of all of these essential sciences and that when a student incorporates a college course of the old type with his technical education the greatest efforts of his life have been exerted before he begins the practice of medicine. To insist on a uniform high standard that includes a preliminary college course of the old type is not practical and will do harm. It is evident, therefore, that we have to deal with conflicting ideas as to the relative value of a high standard of general education or a high standard of the technical sciences or both. This conflict of ideas involves many different issues and deals with methods of much perplexity. When we compel our young men to give over four years of their time to professional training we are apt, in many cases, to observe that their general knowledge has been neglected. Especially is this so if the former is compulsory and the latter optional. It may be well enough to have a very high professional standard as it is here in North Carolina, but if we advocate a still higher standard and neglect the college or high school training, that is so essential to the professional man, we are apt to make a mistake.

I admit that modern medical colleges incorporate so many of the sciences that are at the foundation of the study of the principles of medicine and surgery, that it has in a way, reversed the old order of things, and it is not so essential for the student of medicine to spend as much time in the high school or college as it once was.

If our professional schools continue to increase their curriculum until every science and enough of the arts are taught that are essential to thoroughly equip the young medical man, then the question, as many consider it, will be solved, but now we seem to be a long way from this ideal. There is a belief that the young man is better equipped if he acquires as much of his professional knowledge as is available outside of the medical school proper. All of our universities and many of our colleges are well prepared to teach the sciences that ought to be the basis for the successful study of medicine. Here they are in an ethical atmosphere that will broaden their views. They are amid a set of associates that bring them in contact with non-professional life, on as many sides as possible. On the other hand, in the medical school they are in an atmosphere that reduces these outside influences to the minimum and encourages them to narrow their efforts to strictly professional thought.

When this plan prevails, when the student obtains his knowledge from a strictly professional institution, he has not the accomplishments, the breadth and tact to deal as successfully with the social and semi-medical problems that come up every day in the medical man's life, as the student of medicine, who has had different training and different environments. Of course, it is generally known that knowledge is more specific when obtained in a technical school with few and simple surroundings, but specific information, when it takes the place of knowledge of the principles of things, is not of as much practical value.

We have fallen into the error of believing that men of their own accord, without being forced to do so, will acquire a general knowledge before taking up even the initial sciences of medicine. We have hundreds of examples to show that they will not. The per cent. of young medical men now entering the profession who can not enter the eighth grade

in our Public Schools is very large. I believe that every member of the Examining Board of this State, certainly those who were associated with me, have this belief. This ought not to be the case. An effort to reform such a system is our obligation; it is a duty we owe to the community, to the people of the State and to the profession.

Other States are fast eliminating such objectionable obstructions to their progress, and unless we follow them we will have to contend with many undesirable influences, to which our present defective methods subject us.

Gentlemen, when we think of the rapid advancement in medical knowledge and the many changes that are so fast taking place along medical lines in other states and other countries, and what we need here in North Carolina, we naturally think of what the attitude of this Society would be to such needs of reform if its policies were now coined by such men as Pittman, O'Hagan, Wood and Thomas.

If we want to lead in medical legislation as we once did, if we wish to keep in line with medical thought, to aid in making medicine a more exact science, or if we are even content to keep in touch with other states and other countries, with the different professions and the different organizations, there must be no defect in any part of our elementary training, or of our technical growth, or of our knowledge of the basic principles of medicine or of surgery.

The Annual Oration.

NINETEENTH CENTURY PROGRESS AND TWENTIETH CENTURY PROBLEMS.

BY JAMES M. PARROTT, M.D., KINSTON, N. C.

This is an age of progress. Perhaps during no period of history has man's permanent improvement been so marked as during the last decade. This development does not belong exclusively to any country or vocation. It is the one theme which is common to the various pursuits of practically all mankind. Standing by the blacksmith's door you see it in the flaming forge, you hear it in the bellows' roar; it is the song sung by the shrill, quick whistle of the locomotive rushing through our rugged mountain gorges, bearing the rich harvest from the fertile plains of the east to distant lands; you hear it in the harsh cry of the factory whistle calling the laborers to work; it is the note of harmony which runs through every song of the farmer, and finds a responsive symphony in the answering call of every profession.

The march of the nations is toward the permanent upbuilding of the human race. I rejoice in the spirit of progress of the twentieth century. It heralds the breaking of another and brighter day. I am not one of those who mourn because they were not born yesterday. I regret that the period of my existence cannot extend over into, yea, even cover, tomorrow. I rejoice that I live today. I have no patience with the conscience-lashed, despairing Macbeth when he exclaimed:

> "Out, out brief candle!
> Life's but a walking shadow; . . .
> . . . . . - it is a tale
> Told by an idiot, full of sound and fury
> Signifying nothing."

I rather prefer that other sentiment which has been an inspiration for years past and doubtless will be for ages yet to come:

" Life is real, life is earnest
And the grave is not its goal,
Dust thou art, to dust returnest,
Was not spoken of the soul."

The medical profession always has kept step with the march of other vocations and the early years of this century finds it abreast with the most progressive. Dr. Holmes pointed out the fact that a great upheaval in any sphere of life, whether it be political or otherwise, will affect every other. The practice of medicine is not an exception. When Plato was teaching the Athenian youths in the market place, Hypocrates was also busy teaching and elucidating the great medical facts, which gained for him the title "Father of Medicine." When the echoes of the guns of Marengo thundering Napoleon's victory rose over the mountains of Northern Italy, and died away on the sunny plains of Southern France, the suffering world heard with gladness the annunciations of Bichat in his "Researches on Life and Death." Dr. Rush and three other compatriots left their busy work of curing the sick to participate in the deliberations of our first colonial congress.

When the revolutions incident to the re-establishment of the second empire of France were bathing the streets of Paris with blood, the immediate predecessors of Pasteur were laying the foundations of modern medicine, and as the star of Napoleon the Third went down to its gory grave, the apostle of the present Scientific school of medicine rose in resplendent glory. With the burden of the sorrow of his people resting heavily on his heart, and while the agonizing cries of Parisian neighbors were yet ringing in his ears, Pasteur indicated the manner by which the sick of future ages could be relieved, and pointed out the way wherein we could enjoy more fully than ever before the great transcendent blessings of this civilization. These historical illustrations can be paralleled in every age. So closely is the welfare

of our profession identified with that of man its history practically tells the story of human progress.

Mankind is under incalculable obligations to the medical profession. Within the last century, even within the memory of the living, the medical man has practically eliminated pain, and has brought the methods of aseptic surgery to a point which well nigh approaches perfection. Utilizing recent bacteriological discoveries as a foundation upon which to build his superstructure, the surgeon has erected an edifice, the like of which can scarcely be found among the works of man. Within recent years the specialties of medical practice have been wonderfully developed; speech has been restored to many mutes, ears once deaf now hear with ease the sweet harmonies of nature, and eyes once dim or abandoned to permanent darkness now see the beauties of God's handiwork. In the last quarter of the century the surgeon has taken the chutch from the cripple and the lame, "has restored lost functions to organs and glands," has let in the light of reason to the insane, has heard and heeded the cry of those whom the deadly hand of malignant growths has been laid and has restored them to health and happiness. Has explored the abdomen for penetrating wounds and infections. He has cut away tumors from glands and cavities, invaded joints, oresected viscera, he has eliminated blood poison, walked almost at liberty through the brain and cord, reduced the mortality of all surgical diseases, and has actually entirely removed the death rate of many.

Inter-linked with this progress in surgery and keeping step with it, we note an equal improvement in the strict practice of internal medicine. Within the century a general practitioner, a North Carolinian he was, has invented and taught us the use of hypodermic syringe; while another co-laborer and another North Carolinian, it is said, perfected the clinical thermometer—the two most useful and necessary instru-

ments ever contributed to the science and art of healing. Since the beloved blood-stained Stars and Bars were furled forever at Appomattox, the practitioner of medicine has gradually driven back many of the foes of human health, and to-day typhus fever, scurvey and a half dozen other diseases which annihilated whole cities in the past, are known only to the students of medical history. Since the fall of the storm-cradled nation the medical forces have been hurled daily and vigorously against smallpox, scarlet fever, diphtheria, yellow fever, typhoid fever, tuberculosis, malaria, tetanus, in fact, every disease, and the battalions of nearly all are wavering, yea, those of most of them are in full retreat. Mortality of the wounded in the Civil War was fifty per cent. So great has been the improvement in medical affairs since that period the death rate of the wounded in the Japanese Army in the recent war with Russia was practically nothing. Within a few years the fatality of malaria has been enormously reduced. The mortality from scarlet fever has fallen lower and lower, until in one State where it formerly raged with great severity, it is estimated that over four hundred lives are now saved annually from it. Prior to 1894 diphtheria was considered one of the greatest curses to which the human flesh was susceptible. Since Berhing discovered antitoxin its fatality has grown less and less and recently when contemplating its results Turner in an ecstacy of delight declared, "No child ought to die of diphtheria." The frequency of typhoid fever within the last few years has been reduced fifty per cent. in Lawrence, sixty in Chicago, and literally wiped out in Munich. This is the story told of it the world over where the advice of the doctor, the sanitarian, is heeded. The death rate from tuberculosis in New York is now thirty per cent. less than seven years ago, and this is an index to conditions in the country at large. In the 17th and 18th centuries the world mortality was fifty per one thousand, and sometimes it reached in certain cen-

ters as high as seventy. In London, the largest city in the world, it was only seventeen in 1902, while the average for all civilized countries was perhaps lower even than this. Since the close of the 18th century over eleven years have been added to the average span of human life; later statistics show an increase of seven years since 1880. Wonderful, these, are they not!

Now ask me lawyer, merchant, farmer, manufacturer, to whom are you indebted for accomplishing these things? Is it the minister? No. Is it the philanthropist? No. Is it the capitalist? No. Well answer me then, who? I will tell you. It was and is the surgeon, the clincian, the microscopist combined and harmonized in one—that thoughtful, painstaking, humanity-loving individual over there. You know him, for he held you in his arms when the light of day first fell on your face; he sat by your bedside and gently nursed you back to health when disease had laid its hand upon you; he it was who shed an honest tear when your loved one left you for the other shore. He is the one who will stand by you and comfort you as you fall in your long last sleep. You recognize him now, I know you do, for no other fulfils this true, real description but this one, and he is—your doctor.

In an hurried manner I have pointed out several of the beneficial results of modern medical progress. We should strive to do at least as much for the profession and humanity as did those who have preceded us. In contemplating the work which lies before us one is almost staggered by the enormity of the task. It is not my purpose to discuss all the problems which are awaiting our solution. There is one certain fixed fact in medicine, which, in importance, stands pre-eminent above all others, and that is that the four hundred and fifty-one thousand deaths annually in the United States, including the eight thousand eight hundred deaths yearly in North

Carolina from transmissible diseases can be prevented. Pasteur declared some years ago, "It is in the power of man to make all infectious diseases disappear from the face of the earth." No one well informed denies this, and every thoughtful person agrees that it should be done.

There is and has been for some time an actual increase in the frequency of renal, heart affections, and malignant growths. Without question we have failed, utterly and disastrously, to make even the slightest impress on pneumonia. Those conditions deserve our most serious consideration and I pass them by because of lack of time to discuss them, and not because I consider them of no consequence. There are three great dangers to public health, which because of their very great overshadowing importance merit special and emphatic discussion. For the country at large I would say they are pneumonia, tuberculosis and alcohol; for our State I would substitute typhoid fever for the first mentioned.

There are only four or five deaths in North Carolina from hydrophobia annually. Men, however, stand in mortal dread of this disease, and yet they pass quietly by with scarcely a comment when typhoid fever is announced, while as an actual fact there are in round numbers twelve hundred and fifty deaths in North Carolina each year from this affection. This means a great loss to our State and represents thousands of cases of sickness. The mortality alone of enteric fever means a money loss to North Carolina of nearly a million and a half dollars annually—a greater sum than is expended for our public schools each year. Thanks to our health laws and our well established rules of health, the number seems to be growing smaller, but the shame of it is that there should be even a single case of this disease in North Carolina at all. Typhoid fever can be prevented and it should be. It would be a comparatively easy matter to wipe it out from our State entirely. It has been driven from crowded cities, why not from North Carolina? It is our duty as guardians

of public health to arouse the public mind to a realization of so doing. Once the people see their duty, and see it clearly, it will be done.

One out of every four deaths in the United States is due to some form of tuberculosis. Over two hundred thousand of our citizens cross over the River each year from this disease. Do you grasp the enormity of these figures? Do you really appreciate what they mean?

The battle of Sharpsburg was one of the bloodiest in the series of the terrible fights of the Civil War. On that field both armies lost over thirty-eight thousand, killed and wounded. For three days Lee and Meade struggled for the mastery at Gettysburg, and when the gigantic fight was over both armies had lost, killed and wounded nearly fifty-five thousand, making a total loss in both battles of ninety-three thousand. Add to this number all the killed and wounded on both sides of the entire Spanish-American war, and the total scarcely exceeds one-half as many as die each year in the United States from tuberculosis. From a financial standpoint this loss is stupendous. These two hundred thousand deaths means a loss of two hundred and thirty million dollars—a sum half as great as needed to meet the enormous annual expense of our National Government. I am sure that the loss entailed by the sickness of those who recover will bring the total up to three hundred and twenty-five million annually. Think of it, three hundred and twenty-five million dollars, a yearly tribute for our folly and stupidity. We lose yearly in North Carolina nearly twenty-five hundred from this malady. Valuing human life by money, as we are sometimes wont to do, this mortality means an annual loss of nearly three million dollars. Mind you, this is from the cases which prove fatal and does not include those which recover. I am sure that our State loses every year four million dollars, at least, because of tuberculosis. If this sum were added to our public school fund it would place a splen-

didly-equipped graded school in reach of every boy and girl in North Carolina, and have a sum left over sufficiently large to build and equip quarters for every insane person now out of our crowded asylums, every orphan not now in an orphanage, every deaf and dumb and blind person for whom there is no provision. All medical authority bears out the statement that tuberculosis is a transmissible disease due to a specific organism, that positively and unquestionably it is not necessarily hereditary, that over 80 per cent of cases are curable in the early stages, and that it can be prevented. It is the duty of the State to lend a helping hand in the warfare we are waging against this menace to our health. Child labor in the mills for long hours is a very powerful factor in producing tuberculosis and must be prohibited. Intemperance must be fought, and a vigorous crusade inaugurated against everything which tends to lower the vitality of the human economy if we would succeed. This is a gigantic struggle, but one which we have every assurance of winning if we but push our efforts, laboring to this end. Doctor, reiterate it everywhere that tuberculosis causes twenty-five per cent. of our deaths, is curable and can be prevented. In an hour of most intense hatred Hamilcar led Hannibal to the altar and there had him swear everlasting hatred to the Roman empire. Let us go to the altar of our duty and in no uncertain terms, borrowing if need be the voice of the thunders that the world may hear, the resolve, that since tuberculosis can be, it shall be wiped off the face of the earth!

Some time ago a friend of mine asked me why the medical profession opposed patent medicines. There are several reasons, but chief among them is the fact that the prolonged and indiscriminate use of those which contain stimulants, and most of them do, has a tendency to arouse latent desires for excitants, thus making successful resistance to after temptation much more difficult. We know that every year since 1898 doctors have used less and less opium and cocain

in their practice, while the world consumes five hundred per cent. more opium and three hundred per cent. more cocain annually than ever before. This enormous increase spells ruin for hundreds of men, women and even children in our country each year. Our annual drink bill amounts to fourteen hundred million dollars—a sum greater by two hundred and twenty million than the total amount spent for bread, meat and education. It is out of my present role to discuss the moral and social aspect of the question. Let us look at the medical side of the case. Broadbent truthfully declared that while deficient food, over-work, foul atmosphere and alcoholic excesses were the principal factors in the progress of tuberculosis, the greatest and most potent is alcohol. We all know that this latter clause is true of all transmissible diseases. Intemperance is more deadly in its effects on the human system than tuberculosis. A prominent English writer in referring to drinking, says: "Not only is it often inherited, but organic ailments are by it originated and organic weaknesses crystallized into disease. The degenerations of age are anticipated and precipitated by alcohol, and the dram drinker is thus sure to have a shortened life." My friends, I tell you that the administration of intoxicants, whether it be in the shape of milk punch or Peruna, is a dangerous thing and one not to be done lightly. It is possible that the seed of a future drunkard may be planted then. It has been my unpleasant duty to witness the death and burial of a widow's only son and lone support. When the light of that poor woman's life was extinguished and densest winter's darkness crept into her soul, when that innocent voice was hushed forever, and those hands which promised to battle for the gentle mother in the stern conflicts of life were stilled in death, when kind friends gently bore the boy to the little burying ground on the hillside over yonder and lowered its body into its grave to sleep forever beneath the bluebells and violets,

within the call of the song birds of his youth, a feeling of sorrow and sadness swept over my soul, unutterably, indescribable. My neighbor between his tears declared that it was the saddest sight on earth. Not so, my friends; not so! Hear me! A scene like that is not more distressing to the human heart than to see one staggering and reeling through life to an early death; Hope gone! Faith broken! Ideals forsaken! A soul damned and lost forever! I believe, and I say it with forethought, that ten gallons of liquor would meet all the annual requirements, in a medical way, for the entire State of North Carolina. It is absolutely unnecessary to prescribe it except for the aged and those previously addicted to its use, and then not in every instance. "Ah," says one full of pseudo-scientific ideas and false hypotheses which he, poor, ignorant man, thinks are true, "What about alcohol's place in Materia Medica?" Bosh! Rot! Alcohol should have no necessary place anywhere. I am sick of the discussion as to the food value of liquor. Its theraputic indications are but precious few. It certainly has no medical virtue, except in the conditions named, which cannot be duplicated by other drugs less dangerous in tendency. Let us as medical men sound the tocsin of war against whiskey drinking, and with our forces fight it to the death.

In the gigantic struggle of the hour, in the preparation for the Hurculean tasks of the future, nothing can afford greater inspiration than the critical study of the lives of the "Fathers." The days of the doctor of the Old School have passed, sad to relate. He had his faults and great ones too, of course he did, but his virtues were numerous, and to these we should turn again and again until their hallowed precepts are our own. The doctor of the Old School possessed that potent charm—Sympathy and Love. I pity the young doctor who has been denied the privilege of sitting at the feet of the typical old-time family physician. He was a citizen of high ideals. He taught practically the divine les-

son—Brotherhood of Man. This he ever heeded as his "vision splendid," and he followed its beckonings as steadfastly as the mariner follows the north star. He listened to the voice of duty, this cry of the soul's ideal, bidding him to battle for humanity's sake, and he succeeded because he harkened unto its call.

Some time ago an excursion boat on one of the great lakes caught fire. The panic stricken pleasure seekers crowded to the front of the vessel. Though every possible effort was made to stop the progress of the flames they spread rapidly; there was only one possible way to safety for the passengers, that by quickly docking the steamer. John Maynard, a sturdy seaman, was placed at the helm. Both he and the captain knew and realized that the lives of the excursionists depended on him. Fanned by a gale the flames rapidly ate their way into the vitals of the ship. Fiery tongues began to leap from every crack and great volumes of densest smoke roled around the old seaman; the fire grew rapidly in fierceness and intensity. It swept around and enveloped the masts; with an awful crash the riggins fell. The captain rushed to the side of the ship and cried, "John Maynard, art thou there?" and the husky voiced seaman answered, "Aye, aye, sir." A sudden gust of wind drove the fire further into the ship, the oil tanks were ignited and exploded. Great flame-sheets and burning timbers were hurled on high, women fainted and men grew sick with fear! From the bridge the captain again cried, "John Maynard, art thou there?" and back over the waters, over the din of the conflagration, the voice of the old hero was heard, still holding out a ray of hope to all, "Aye, aye, sir," and the ship sped on. The wharf is reached; what joy to those passengers. Presently some one remembers the old seaman. The cry is raised, "Where is John Maynard?" The captain shouts, "John Maynard, John Maynard, John Maynard," but no answer comes, for he, who but a few minutes before, was holding, with burning

hands, the vessel to its course, was now wrapped in the embrace of death. The medical profession in North Carolina has produced many John Maynards.

Hark! what cry is that piercing the midnight air, striking terror to the strongest of human hearts? "Help, help, Oh God, help me, my baby is dying; the doctor, the doctor, go for the doctor!" Out in the midnight dashes the messenger, over hills, through valleys, on, on he speeds to the distant village, down its lonely street, straight to the little cottage on the hillside, where flickers the midnight lamp—a beacon light to those seeking health. The sound of the approaching horseman falls upon the sensitive ear of the physician. Self is at once abnegated and forgotten. He hears the human call! He springs from bed; half dressed, ill prepared to face the raging storm, he begins his perilous journey. Though the winter's blasts are raging, he cares not for their icy coldness, for is not a life at stake? He realizes the necessity of the greatest haste. On he rushes, plunging swiftly through the darkness, galloping his faithful horse here in the opening, rapidly picking his way there among the fallen branches, through roaring torrents, up steep hills, never pausing, onward, onward to his patient! Gently, tactfully and swiftfully he glides into the sick chamber. He realizes in a second the true situation. By the side of the little sufferer he drops, without hesitation, though knowing full well the danger of such a procedure, he places his mouth to the mucous-plugged tube in the child's throat. It is opened, the pure air inflates the little lungs again. Artificial respiration is begun. All through the lonely night the physician labors, and at last, when the gray dawn of approaching morning breaks in gladness over the earth, dispelling the storm of the night, joy reigns supreme in that home—the baby is safe again. But sad to relate, ten days later, this grand, good man, the John Maynard of that incident, gave up the ghost,

a victim to the dreadful disease, diphtheria, which he contracted from the baby on that eventful night. Dr. Wood, for the rescuer was none other than he, was a hero in the highest sense, and died a hero's death. "Greater love hath no man than this, that he lay down his life for his friend."

> Abou spoke more low,
> But cheerily still; and said "I pray thee, then
> Write me as one who loves his fellowmen."
> The angel wrote and vanished. The next night
> It came again with a great wakening light,
> And showed the names whom love of God had blest,
> And lo! Ben Adlen's name led all the rest.[2]

We hear much in this day, of Commercial Development, of what men call Hustle, Progressiveness, Business Methods in Professional Life. I suppose these are well, but ah, how much, how much of life's greatest and richest joys are we, who are chasing the dollar, missing when we fail to follow in the footsteps of the world's grandest nobleman, the medical John Maynard? Oh young man, young practitioner, cling closer, closer, yea closer to your soul's ideal! You can not afford to break faith with the "visions of your better hours" even to save your life! As sure as there is a God, you can not succeed in the very highest without sympathy, without the broadest Christ-like love!

Mankind the world over is undergoing great intellectual development. Sentiment is rapidly giving away to common sense, the arts are held in higher esteem than in any previous age, and science is beginning to be estimated by its true value. People realize as never before the great importance of the medical profession in its relations to, and the role it plays in civilization. Our vocation is more alert than in any period of its history. While, thank God, it is still devoted to its ideals and its altruistic ideas, it has caught the progressive spirit of the hour, and is rapidly making toward its goal. It is wise that we cling to the inspiring memories

of the past; we must take from it those things which are useful for the present and the future; we must prune from the products of this day that which is worthless, and save for to-morrow that which is permanent and fadeth not away. Let us hold steadfastly with one hand to the elevating character traits, the "visions splendid" of the fathers, and the many bits of knowledge which have come to us a rich legacy from the glorious past, while with the other let us reach out and behold the hustling progressive strenuosity of the twentieth century, bring the two together, combine them in one, striving thus to attain unto an ideal of which we have dreamed, but not yet realized; hoping, trusting that they may be harmonized eventually to the betterment of humanity, and to the honor and glory of the great profession to which we belong.

The Annual Essay.

ONCE ON A TIME THERE WAS A MAN.

BY T. S. M'MULLAN, M.D., HERTFORD, N. C.

Mr. President, Members of the Medical Society of the State of North Carolina, Ladies and Gentlemen:

The theories of human knowledge and of human perception have been varied and the causes of many and anxious disputations since metaphysics became the study of mankind. The evolution of this science has been attended by great earnestness and marked ability, and its discussion has sometimes provoked a bitterness almost akin to malignity. From the idealism of Plato, who taught the doctrine of innate knowledge supplemented by human reminiscence, who believed in the existence of eternal forms and ideas in some supra-mundane sphere, and that these were the arch-types of all the senses perceive upon the earth; that these types were perfect and unchangeable, and that every human soul in its prenatal existence saw these arch-types and knew the objects seen on earth by their likeness to the supra-human ideas; the phenomena, appearances and objects of the senses being to the early Greeks and Mediaevalists not real, but to those who followed this teaching as the shadows of eternity upon a lighted wall; from the cosmothetic idealism of Descartes and Kant and later Malebranche, who taught the problematical existence of things analogous to that attributed to the perfect and eternal forms, down to the common sense and sensualism of John Locke, whose theories have survived in modern intellectualism as the philosophic guide, who saw in an idea "Whatever is the object of the understanding when a man thinks," I say from all these different logics, from all these higher speculations and problematical beliefs, the scientific world has been brought to believe that while all things are material, all phenomena and appearances are real, all ob-

jects can be apprehended by the physical senses, and that all sensations, as joy and grief and pain and pleasure, are not imagination, but the reflections on our intellects of physical circumstances and environments, yet our thoughts and perceptions and ideas do have cast upon them the flash-light of an eternal world, and whether this influence be, as Plato taught, of a prenatal nature, or whether it be the present whisperings of those invisible spirits which hover about poor fallen man, the belief prevails, though many doubt, that in every mind there is a subconsciousness of things immortal, that in each heart there is a spiritual ideal, that in each soul there is a link binding it to eternity, and that in the lives of men ofttimes the gates are lifted and there flits across the brain a dim and hazy blush that without consciousness leaves behind some vague and subtle impress—

> Like blushes of the sky at night,
> When from some unknown, unseen height,
> A fiery meteor falls.

How often have we known it; how oft in trials and vicissitudes an unseen help appears; how oft in agony and woe supernal strength is given; when perils come and dangers lurk about, how oft the power comes to bear men up beyond their mortal might. There is a blending of the ideal and the material; the history of the world stamps this as truth; experience a witness that it is so. We cannot understand these subtle communings, neither do we know the mysteries of life; we only believe that in the lives of men they come, sometimes to bear them up, sometimes to note their doom; sometimes to cheer a broken heart, sometimes to mark an end. What say you, who deny these things to the evidences before you? Do you believe the unflinching courage of the early martyrs born alone of mortal strength? Do you reject the fore-knowledge told and preserved in history of knightly soldiers who have felt before the battle the breath from an angel's wing? Do

you discard as of no amount the visions that have come to dying saints, and do you think the words of Holy Writ were wild imaginings? Ah, Mr. President, these things are true; the embodied testimony of an enlightened world; the recorded truths of men to whom the truth was paramount to all. And if hallucinations and if illusions, as many make believe, what are they but the expression of an intellect wrought upon by some undefined but infinite influence? Yet some reject, and some of us; of our guild who daily see the hidden portions of the human body; who stand appalled at mysteries not yet disclosed to us; who daily see the agonies and the strength to bear; who see the pains and aches and ills, and oftentimes too the light that comes at last. Five hundred deaths without the light; five hundred scenes where death approached unheralded; five hundred cots where nature sank to rest alone are counted as no proof against the rapturous glories of the dying Saint Ignatius, and all the wisdom and the glittering fame of an honored Osler are worth but naught about this thing beside the softened whisper of some white-faced sufferer that she sees the great White Throne, and hears the soft-toned singing of the Heavenly Choristers.

The modern tendency of medicine, Mr. President, is toward materialism; we have no more right to deny the influences of the unseen because they are beyond our ken, than we have to deny the "vital principle" in life; we understand neither, but we must believe the ample evidences of the existence of both. Their union makes up the sum of our being, and on both we are dependent.

Ideals not only exist in men's minds, but they inspire their acts; since the world began the lives of heroes have led the people; the recorded deeds of great men, either real or mythical, whether of this world or in the spheres to which beliefs attached them have been the signs which mark the paths we

take; the darkest days of history are lit with beacon lights which beam upon us yet, and in the days of myth, in pre-enlightened times, whether the tales were of physical origin or whether they were songs by which the wandering bards beguiled the weary hours, the old heroes that they sung about were, to the people, prototypes of honor and of wisdom and even of iniquity; when Jove and Apollo were worshipped as gods, and The Fates human destinies spun; when the Cestus of Venus brought passion and war, and Valkyries beckoned the heroes home in the land of the midnight sun. Then afterward, when truth and legend met; when to the vices or the virtues of men were added the anger or the pleasure of the gods; when giant deeds were daily boasts and round each mighty life was wove a wreath of praise as fragrant now as when its leaves were fresh from laurel boughs; the day of earthly light, when visions of the saints made men believe in God; when lives revealed to us and simple acts of faith inspired the sacrifice and made the blind to see; the day not gone afar when our art was born; when from its myths and from its fallacies great men derived a grain of truth, which, like a seed implanted in the ground, has become a mighty tree. Through all these times ideals have led us; in all the logics and statecrafts; amid the good and wiles and wickedness of a restless world, some man living his life before us, or perhaps being one of us, has been the exemplar of that for which we strove; or if not one, our type may have been a composite—the union of many virtues or of many vices, each existent in and distinguishing one life; but whether of one or of many, some type we have and some type we will follow.

Man is a creature of imitation, guided by the experience of his ancestors, shaped by the reminiscences of his own life, and moulded by the records of the world. History is replete with deeds worthy of repetition and filed too with actions unworthy of the memory of the race; these we study, some-

times choosing the bad, but oftener the good; sometimes choosing our arch-types by a blending of the seen and of the unseen. For all the ages men have been moved by the same life forces; have acted from the same motives; have suffered and gone to death; have lived in joy or gloom because of a virtue or a vice pre-existent in some one, who unconsciously to themselves have helped to shape their destinies.

It is to the credit of us all that the good we do lives after us though the wrong be often blotted out, and that the world sets up as pillars of fire men of virtue rather than of vice. If there be bloody prints upon the pages of history, and if evil faces leer at us through the dimming haze of centuries that have some followers, the shining lights are men of truth and grace and men whose glories shine as bright as in their day. One single attribute will mark a life sometimes, and one heroic act will point the height to which we all may climb; so true is this that names are synonyms of qualities once possessed, and this should teach us all what pictures of the past to cast our eyes upon, what we should study, what we should emulate, and what we should disregard. Unquestionably and almost unconsciously we associate names and acts; we join special vices to special men, and good men involuntarily try to follow the lives of and to appropriate the characteristics of good men; to attribute to them without thought the graces that they most famously wear, and to live by the reflection that is cast upon themselves and moulds them.

If this be true, Mr. President, if we be creatures of imitation and emulation; if our lives and characters be cast in the mould of past events and fastened by an investiture of ourselves with the properties of our arch-types, the conclusion is inevitable that upon a proper selection depends our worthiness or failure. Do we prefer the blots of history rather than its glories? Do we choose to study the stories told of courage and human kindness, of honor and unselfishness, of

duty and self-sacrifice, or had we rather read the tales of cruelties and envious strife and of the treachery and wickedness that stalk the earth?

The medical profession stands to-day the most honored profession, save one, among the callings of men; to the public it is colossal in its benefactions, full of charity toward humanity, burdened with a mighty weight of mortal suffering and woe and united to a man in all its battlings against schismatic practices; beloved by its votaries, valiant in its fightings for the proven truths, unselfish in its free offerings of discovery, and standing as one in support of scientific progression, with an absolute knowledge of its value to mankind, this great profession, I say, to the public stands mighty and cohesive in its power; it stands to-day erect and defiant in its scientific work and utterances because it believes it has the right through the verdict of a glorious history. And yet, ah yet, Mr. President, between ourselves, between us who should be united as brother is to brother, there is sometimes a mutual dislike, the spirit of a jealousy that may be kin to hate.

I wish to ask your pardon, ladies and gentlemen, for two offenses. My duty here to-night assigns me to read an essay; this I am not doing and is my first offense; my second is that instead of saying sweet and pleasant things about my brethren I shall attempt to lay bear the darkest stain that rests upon the heart of us to-day; the stain of professional envy; of professional antagonisms, even, I am ashamed to say it, of professional jealousy. This is not a pleasant subject; we love to say in public nice things of one another as others say of us; we love to think, each one of us, that at some other door this fault may lie, but not at ours; and yet I know, with the fullest respect to all of you, that this thing touches and grinds and tears and rankles in the breast of many here to-night. It is Bete Noir of our craft; the wormwood and the gall; the opprobrium of our art; it mars the beauty of our

work, lessens the confidence the people have in us, and is neither necessary nor in accordance with the proper ideals of the medical spirit.

It might be well to seek the causes of this condition; why so much dislike between doctors? Why so many communities embittered and torn apart by the envious disputations of its medical men? One reason may be found in that ours is not as yet an exact science; our judgments differ and produce varied opinions, which each one's adherents gratuitously distribute; as is common with all rumors, these variances grow greater as they run and when carried back are wider than at first appeared; the fallibility of human judgment in treating disease is a cause, a superior ability in another or the ordinary happenings of a cure due perhaps to an altered condition; the thoughtless remarks of friends; the proffering of our advice when none is sought; the violation of ethical rules for spite or sake of gain; the strong competition, which causes too much of commercialism; the opportunity often afforded one doctor to review the work of another in consultation, urgent distress, or by a reasonable or unreasonable exchange of medical attendants, and the too prevalent dispositions under such circumstances to let fall a word, to criticise a treatment not our own, to strengthen our cause even if we disparage our fellowman. It is to the credit of the doctors that they are given high rank as social factors, and by this how much more is it discreditable when they, by their enmities toward each other, use this high influence to set in motion currents of unfriendly comment and vindictive criticism, which may sometimes meet and form a social maelstrom as greedy to engulf the fames and good reputes of those who come within its grasp, as are the seething waters off Lofoten's shore to draw to death the hardy mariners.

Ladies and gentlemen, you who seek our aid; you who believe in us and yet each day do see our faults; you who trust

your lives to us and the lives of those most dear to you; who have watched with us full many a night till gleams of light from out the east thrust back our black despair; beside whose couches we have stood and wrestled hour by hour until we brought some loved one back from death's grim clutch, or earned for you the blessings of more days on earth; O woman, woman, in whose loving heart the doctor always has a place, whose grateful words he covets, and whose pangs to him, though oft you know it not, are like unto the wails of broken harpsichords; O mothers of our land, whose holy lips caress and teach the little ones and pray each night that health may cling to them; who stand with us beside their childish cribs and watch with faith that we can guard your own the feverish flush upon their little cheeks; who are the guardian spirits of the sons of men, and teach us by your sweet-voiced words what noble gifts man hath; help us, we ask, to take away this stain, this crimson blush upon our blazoned shield; give us your aid in this our great distress as we will give you ours; speak no harsh word of what we do when in the stress of circumstances; reflect on us your sweet forgiving ways, and touch us with the spirit of your gentleness. Mr. President, there is a help for every ill and there is one for this.

Once on a time there was a man. No boast of heraldry nor pomp of power was his inheritance; obscure in life, with the teachings of a simple father and the blessings of a sweet-faced mother he grew to man's estate and was a benefactor to his people; with body stern and rugged as the native hills whose wooded tops o'erlooked his daily walk, with temper sweet as was the heather bloom that whitened in the dale, bright-hearted and as happy as the larks that every early morn brought wakefulness from sleep, and laugh so warm and comforting as made all nature smile, this man has left on record's page a lesson we may learn. No call for help was ever made in vain; through storm and calm, through shadow

and through sunshine, ministering to body and to soul, giving ease to suffering, cheering the unfortunate, providing for the comfortless and lending the benediction of a noble charity the errands of mercy did not fail. No envy nor bickerings did he have, no war of words, no jealous ranklings in his heart; but with a courage that did not flinch; with a purpose that did not fail; with heart o'erflowed with love for all alike, this simple man, blessed of his own, went on his way; his life serene and joyful and as full of music as King Mennon's sun-kissed lyre.

The picture of this simple man may be ideal; it may find its likeness in some of you; it may be the creation of some mighty intellect touched with the beautiful possibilities of mankind; it is well-nigh the apotheosis of the lowly servitor of the medical art; its type exists and has existed and will exist, and presents not a perfection beyond our possibilities, but an excellence for which we all should strive, and to which we may attain; it is the story of an humble country doctor, whose work lay parallel with ours, whose temptings came to him no doubt as ours come to us, and who proved himself a mighty man because he ruled himself.

In speaking of our envies and mutual distrusts I do not wish to even seem to refer to the natural right of man to live by his own endeavors, nor do I for a moment disparage the proper spirit of an honest rivalry; I do not counsel a ready acquiescence in the habit a brother may have to infract ethical rules, nor do I deny the right to resent an unjust imputation, though it bring a breach; nor can I hold him guilty who, in the stress of dangerous circumstances, overrides to save a life, perhaps, the rules that guide our conduct; in the lives of all of us there come these times when haste is paramount and ethics best postponed. But, sir, I refer to that unreasonable dislike which makes a chasm where there should be a link; which makes a breach where there should be a sympathy; there is no true name to call it save its own—

jealousy—the crime for which an angel fell; which draws the wrath of God and fills with ghoulish glee the Prince of lowest Hell; which distorts the truth and feeds itself on lies; which magnifies the trivial and oft attaches wrong in deed to those most pure in heart. The same sin—call it what you may—that has been the mightiest wrecker of the world since Cain became a murderer; that has wrecked men, wrecked women, wrecked homes, wrecked states and hurled from off their honest thrones the makers of the epochs; that has marred the life of many noble sons, made saints almost to sin, and sowed its seed among our kind that bring up tares where wheat should always spring—Professional Jealousy—Mr. President, that darkening stain upon our quarterings that repels the coming of a new practitioner into our midst; which grudges a success to honest rivalry and sneers when it begets a confidence; that sees no room but for itself, and rates no service worthy save its own. It is enjoined upon us all to protect our own; to guard our fames and lives and all our natural rights; the same High Power, who has endowed each one of us with talents, demands their fullest use and holds us to account should we hide them in the ground; and yet the burden of a brother's part is laid on us and no one stands beyond this law. It is as much our duty, sir, and as burdensome upon us, to enhance our worldly goods by what square means we can, as it is our right to live and our right to protect our lives; and in just so much as it is our right to do these things, it is our duty to give help and not make hindrances to those less fortunate than ourselves.

There is no habit, sir, beyond a reformation; no sin beyond redemption; no life so black that it can not be made whiter; there is a cure for this, our great professionel fault; the ideals have been set for us to look upon, and are no higher than the doctor can attain; it is not given to the human mind to contemplate a higher type than one that can be reached; we must fix our standards high, and, having set them up,

must diligently pursue them; we can not hope, all of us, to excel; the talents given to us are not the same; the opportunities that come to us are different; the circumstances and environments of our lives are varied; we must expect a divergence in observations, in opinions, in practices, and in successes. Each man here to-night has his allotted place, his allotted work, and must be the builder of his own professional edifice; is one unit, one factor in the great work of lowering or of raising higher the plane of the inter-life of the great medical community. The cultivation of a warm cordiality toward our brother doctors must be our constant study; a painstaking avoidance of unfriendly comment on their acts and opinions; a shown willingness to act for them when necessary; a support of their treatments when in consultation, if possible, and if forced to disagree, do so with the least disparagement and not with the intent to gain a client; be intolerant of the hostile criticisms of your competitors by your friends, and let not rumor use your name in wild extravagancies; uphold the work and judgment of your medical officers when not in your opinion adverse to the public interests, and always keep in mind that there is a guide in life which says that you should do to men what you would have them do to you.

It is not pleasant to think, Mr. President, that in the time of so many glories of the medical art; that in the time of its many successes, its many deeds of kindness and of charity and self-abnegation; that past the time of its many grapples with the triumphs over superstitions and churchisms and priestcrafts; that past the time of mists and murk and dangerous heresies, until now it stands revealed in all the splendor of an ancient prophecy, and through the earnestness of its myriads is unfolding day by day the as yet unseen and beautiful mysteries of human life, slowly emerging into the effulgent light of a still far greater destiny, it is not a gracious thought to us that clinging to it yet we sometimes see

this deadly, blighting sin, for like of which, enhanced in great degree, have come through all the years of earth the fearful social cataclysms that with woe unspeakable have rent in twain the fabrics of the ages.

Fellow members, there is room for every doctor on this earth to-day; there is work for all to do; some are more favored than the others, but each one can have the friendship of his brother and the full respect of all his fellowmen. Our profession was not designed for riches; its commercialism is behind many of its faults, and I fear sometimes that its greed is sapping its gentility; for until we all believe in the usefulness of each to the other, in the equal rights of all, and that our science is a science of brotherhood, we will not reach that high estate to which we all aspire; and until we know that we reflect each other; that we seem high and noble and useful, because others of our profession are high and noble and usefulness, we will not cast off this cancerous sore, which brings us such unrest. The life of one good doctor in a community casts its light upon them all, and the shadow thrown from one bad professionel act darkens far beyond its fall. Travellers tell us, Mr. President, that in the beautiful region of the Lepontine Alps, near by the Sphlugen Pass, there stand two mountain peaks which rear their storm-swept heads just side by side. Covered with unmeasured widths of snow, girded by their glaciers and towering in the clouds as though to storm the heights of Heaven, these sentinels stand the awful monuments of a primal cause; no human foot has ever scaled their giant cliffs, and from their minarets the light shoots up as if to meet the splendors of some glorious majesty; alike they stand in form and height and grand embattlements, while twixt the two the leaping cascade roars, formed from the meltings of their mighty sides; darkness and the winter's blasts touch both alike, and in the morn the sunbeams sparkle on their gleaming snows like diamonds on the lily throat of Egypt's Queen. Like sentient things, who know the dangers

of the paths we trod, they point the safest way, and oft, amid the thunders of the battlings of the clouds, from out of their clefts and yawning crevices there come the distant echoes, which do wail and groan and crash and rave as if within their throbbing hearts were waged again the conflict of the gods and mighty Titans. They stand as rivals for the admiration of the world, and to each peak a greater grandeur is because its mate is grand, and more sublime are both because on each is cast the rugged beauties of its fellow. And so we live our lives observed of all the earth, and side by side with him, who, if he be a man, will shed the radiance of a useful life around him, but if he live in darkness and in wrongful practices, some gloom will fall on us, though our lives be shining as the brilliance of the Astriae.

I ask you, fellow members, to hear what I have said in the spirit I have tried to say it; I feel my frailties and know somewhat of my imperfections; I have felt the bitter stings, and no doubt, in my short experience, have dealt the blow to others; I ask no part of this for you, I do not hope will come to me; the public rehearsal of our faults is not a pleasant duty, but to me this seemed a burning question, and if I have offended the pardon lies, I trust, in the intent. The song of ages past is music of a sweeter key, and rather would we hear summed up the prophecies now fulfilled; but truth will rise, and we must know our faults should we correct them. May the knowledge of our value to mankind; may the examples of our great; may our belief in the conception of our science in the wisdom of our God, and may the hope for the ultimate perfection of our art upon the earth, aid us in the furtherance of one grand fraternalism.

Let us forget our spites; let us judge not lest we ourselves be judged, and when we feel a wound let's be gentle as we can; let's meet unkindness with kindly words and kindly acts, for the effort to be friends on the part of one has brought within the bond of friendship many between whom there

seemed to be an ever widening chasm. A gentle spirit has healed a many a tear, and a soft answer averted many a wrath. Let us appeal in our moments of resentment from maturity's stern manhood, to when a little child we said our prayers at setting of the sun around our mother's knee. It is related, Mr. President, that when Jenny Lind was just beginning her life of sweetest song, and Madame Grisi, then at the height of her great fame, was the favored idol of all true lovers of her art, there came to be the greatest jealousy of the older woman toward the younger; it so happened, during the stay of both in London, that Queen Victoria, knowing already of the fame of Madame Grisi and wishing, too, to hear the sweet voiced Swedish girl, commanded them to sing at one of her assemblages; Grisi sang first, and sang most beautifully; the notes poured forth from out her golden throat in richest harmony, and swelled and swelled till all the air about seemed bursting into sun; and then came Jennie Lind, the blushing maid, just barely sweet sixteen; too timid yet to face a royal throng, too shy to know her power, she tried to sing and failed; the sounds would not come forth, and as embarrassed and wounded in her pride she turned away, she met her rival's stare, sneering and triumphant and full of hatred; stung and at the same time calmed, by one quick touch of woman's soul and strengthened by some word of sympathy, she asked the Queen if she might try once more; receiving assent, to her own accompaniment she began to sing a childhood's prayer she learned to sing when by her little bed at night she asked to be forgiven, a simple song of purest faith and love. Slowly and sweetly she began, each note as pure and clear and as full of music as the bells of Scheppon's chimes, and every word forgiving and as full of love as the gentle heart from which they flowed; and then, as if she sought some help from God, her face lit up and from her slender throat there rushed a mighty tempest of divinest melody, which sobbed and raged and thrilled and awed as higher yet her heavenly voice arose,

until from out the skies above the angels seemed to come and join with her in one grand, glorious aria; her breath grew soft and low again with suppliant murmurings, plaintive as the moaning of the distant sea, and then at last, as if some hovering spirit whispered that the day of peace was broke, were heard the song of gladsomeness and music joyous as the babbling of a summer's brook. She rose, and from a hush as silent as the stars at night there came the victory; the little prayer had done what woman's will had set at naught, and, childlike words in simple song had tied the bonds of sweet accord twixt those who had been enemies. Grisi approached and kissed this daughter of the North, and with a heart of love, where hate had seethed, she turned away. And this, sir, is the feeling we must show; the gentle touches of our early lessons. If we love our profession we must strengthen its union, and must sacrifice our feelings sometimes as freely as its heroes have their lives; we must live and work and forgive, and, if need be, suffer too for the ultimate good of a greater humanity. The sternest too are softened by a gentle word, and many a time some heart of oak, made harder still by hostile attitudes, has grown as soft when tenderness is shown as winter's ice when Notus breathes upon it. The giving rightful dues for labors well performed, and honors for heroic acts have been and are and will be evermore the strongest props of men and states and kingdoms of the earth.

It is said, sir, that at the battle of Wagram the legions of France had been hurled back time after time by the terrific onslaughts of the Austrian hosts massed in their front; with a lightning eye and with that prescience which was in the hour of danger the very genius of Napoleon, the Emperor saw that his only hope lay in dividing the army of the Arch-Duke Charles. Summoning MacDonald, he ordered him to pierce the Austrian center. This general, between whom and Napoleon there was at this time a feeling of unfriendliness, bowed his assent and silently turned away. Putting himself

at the head of his veteran corps of fifteen thousand men, his towering form erect, as if some gigantic Titan was at war, his eye lit up with battle's lurid glare, and his stern old heart filled with a soldier's purpose to save the empire or to die, this hero of the French began his awful charge. Across the plain is heard the measured tread of armed men, and from their front and from each flank there come the roar and crash and shrieks and screams of Austria's mighty guns; yet on MacDonald goes; and now men fall; the ranks close up and others fall to die; the groans go up, the piteous cries of pain, the calls to God are mingled with the rattle of the musketry; the battle flags are torn and rent, and hands that hold them up are black with clotted gore; and still MacDonald moves. But now we see the tired soldier pause and look behind; he sees far back a trial of blood and men; he sees one stand where ten had stood before; he hears a mighty cry go up, "Vive le Empereur," and then he hears, O God, far off he hears the thundering on the Austrian left of Davoust's savage guns; "Forward," breaks from MacDonald's iron lips, and through the gloom and streams of sulphurous smoke, through shouts and din and clash and belching tongues of flame, through living walls of fire and crimson rivulets, he leads his war-scarred veterans, straight through the jaws of death, right to the mouth of hell, he storms and storms and storms until at last he broke the battle line of Austria's royal Duke and changed defeat into most glorious victory. And when the Emperor held out his hand and thanked him for his valor and his noble services to France, presenting him a Marechal's baton, this grand old man, forgetting all his anger, all his hatred, which he thought was just, grasping Napoleon's outstretched hand, while tears coursed down his rugged cheek, said, "Sire, I count all that I have done this day, all my life, as nothing but for the glory of your majesty." This, sir, is the spirit to guide us, and this the zeal to urge us on if we hope to reap a ripened field, and if we expect to gather figs instead of thistles.

I have said these words, my fellow members, because to me it seems a danger lies; if I mistake the words are wholly mine; if I'm condemned, then let it come—the condemnation's mine:

I'll feel full paid if from a word
Of mine some seed may spring
To blossom, and on every heart
Their gathered fragrance fling.

For what too oft has come to me
Map bring to you some mars,
For both have friends as dear to us
As Cancer's triple stars.

And so I'll write and say my say,
And strive for what I ween
Will keep from out your lives and mine
This fault—and all that's mean.

This fault touches me, and so I think it must touch you; it may be that it is growing less, but while it exists upon the earth its exercise must be our constant aim, for by this alone can be achieved the climax of our work, can come the full respect of every one, and can be brought to pass a strong cohesiveness.

Mr. President, philosophers have dreamed of universal knowledge; scientists have dreamed of the perfection of their sciences; statesmen have dreamed of universal empire, conquerors of never ending victory, and poet's have sung of a beautiful land where flowers bloom and rippling streams chant glorias to their God; but, sir, the sweetest dream that can come to him who lives the art of medicine; to the student who has learned of the days of a nebulous myth, who has read of its march triumphant through the years until it conquers sometimes even death itself, I say, Mr. President, the sweetest dream that can come to him is not of the plaudits of a thankful people nor of well deserved rewards, but it is a dream of peace and concord, of unity and freedom from dislikes, of great professional cohesion and mutual friendships which make more close the bonds between us all.

Sir, I am done; the future is not told to us save as we gauge the past; the height from which the world was made still is and guides; the frailties of mankind are burdens we must bear, and if we bear them down must look upon ideals that elevate our standards; find these where you may, and having found them, cling more closely to the lessons that they teach. The years to come will bring to us more cares, more kindnesses, more conquests and defeats. Our building stands secure, implanted on a rock deep sunk in toils, and battered by an erstwhile storm of persecutions, but solid, hard, as lasting as the cliffs and beetling crags of Norway's stormy shore. And he who lives will see some day where our structure stands a splendid temple rise, each building stone the monument of a wearied, useful life; across its massive doors are writ the stories of our great, and in its halls and stately corridors are costly tapestries and pictures of the struggles that are past; the epoch scenes are vivid on its frescoed walls, and from its spires and gorgeous pinnacles there hang the emblems of our steady onwardness; no sounds of discord ever dwell therein, but oftentimes there rises on the eventide the joyous hallelujahs of the waiting multitudes; its sculptured columns lift eternal as the truths on which they stand, and far beyond, beyond the daily restless strife, its glittering dome, resplendent in a golden sheen gleams out and sends its rays of purest light to gladden burdened men. But higher than all this; than all our trophies won from occult sciences; than all our triumphs and our overthrow of heresies; than all our proofs of life's deep hidden mysteries and all the stories of our deeds which make a tome of wondrous worth, higher yet than all of these there waves above this temple we will build the banner of a perfect brotherhood, which floats and dips and glistens in the early light of day to show the world that for their greater good we've fought the fight and won, have torn the bitter envies that we once possessed from out our hearts, and over ourselves have gained the mastery.

THE PRESENT STATUS OF THE TREATMENT OF CANCER—WITH REPORT OF CASES.

BY L. B. M'BRAYER, M.D., ASHEVILLE, N. C.

This paper is intended to be intensely practical, and the writer hopes to be of help to the general practitioner, as well as the specialist, and thereby benefit the people. If we succeed we shall feel amply repaid for the time spent in its preparation. Hence there will be no place for theorizing, neither will we draw fine distinctions as to kind, but use the term Cancer in its broadest sense.

The present status of the treatment of Cancer resolves itself into—Prophylaxis, Ablation by Surgical Procedure, by plasters, and treatment by light; or a combination of two of these.

PROPHYLAXIS.

Ever since we first became interested in the study of Cancer, it has been a matter of great surprise to us that this matter of prophylaxis should be entirely ignored by writers both in journal and text book. Laceration of the cervix is a very frequent cause of Cancer in this organ; in fact, Cancer of the cervix or body of the uterus, is so rare in the virgin uterus that it is claimed by many that it does not occur. So far as my experience goes it agrees fully with this statement. Such being the case, if laceration of the cervix produces no other disease except Cancer, which is not the case by any manner of means, it is the duty of every physician to see to it that every woman under his care, having a lacerated, cervix, has it repaired. In fact, I believe it to be good routine practice to examine the cervix of every parturient patient at the end of two months, and if any lacerations are found have them repaired.

The tendency for all tumors of the breast to become malig-

FIGURE 1.

Was a carcinoma of the right breast. Treatment was begun five years after the tumor first appeared. Breast was entirely destroyed. Any other treatment than by the X-ray was not to be thought of.

FIGURE 2.

Cured by five months treatment with the X-ray and remains cured after 18 months.

FIGURE 3.

Epithelioma, of the left lower eye-lid involving the tarsal cartilage.

FIGURE 4.

Treatment by the X-ray. Remains cured after six months.

nant has become such an accepted fact that I need hardly refer to it, and will only say that any tumor of the breast, however small, should be removed as soon as discovered. Have only seen one benign tumor of the breast, and am not sure that it would have remained so, had it not been removed. Patients having moles, naevi, birthmarks, etc., should be warned that these are often the starting point for Cancer, and if they show any sign of growth or irritation, should be removed, preferably by electrolysis. The people should be educated out of the idea that the removal of these blemishes may start Cancer, and be educated up to the truth of the fact that the opposite is true; if let alone they frequently cause Cancer, and if removed never do. This prophylactic treatment must be looked after and insisted upon by the general practitioner, and it is high time that we were waking up to a sense of our duty along this line.

EARLY DIAGNOSIS.

I want to here and now make the statement that *all cases of Cancer can be cured.* This statement is based, however, on an early diagnosis and prompt and proper treatment. I repeat, it will bear repeating many times, all cases of Cancer if diagnosed early and treated promptly can be cured. If you find a patient with a tumor of the breast, call it a Cancer and remove it or have it done,—I mean remove the tumor, not the breast—and 99 times out of 100 you will be correct in your diagnosis and the same number of times you will save a human life. If you find a woman who has passed the menopause, who has passed blood from the uterus, be it ever so small, you have a case of Cancer and the time to do a hysterectomy is inside of 24 hours. All your patients will get well with this treatment, all of them will die if you temporize and wait. If you have a patient past the menopause with a foul smelling leucorrhoea, do not wait

for the microscope, you do not need it; take out the uterus and save your patient's life. I had a patient from Tennessee referred to me for Cancer of the uterus, that had been seen six months previous by a physician and at that time had a pretty severe hemorrage from the uterus. If he suspected Cancer he never gave the patient any intimation of it. She rightly fell into another doctor's hands and was referred by him. The case was entirely beyond the pale of surgery. She has since died. I had another physician send me a patient with Cancer of the cervix for operation, after he had been treating her with glycerine tampons for six months. At the time I saw her she had the Cachexia. I summed up her chances as best I could; she wisely took the only chance she had, that of operation, and I think she would have recovered had she not been attacked with hiccough on the fifth day, which ended her life on the twelfth day. But her power of resistance had been greatly lessened by the delay, and had she recovered the chances of return were very much greater than if operation had been done several months earlier. Two weeks ago I had a case of Cancer of the uterus referred to me for hysterectomy. The doctor had been treating the case for three months and at this time there were numerous inguinal glands infected. She also had the cancerous cachexia and had lost considerable flesh. The chances for an operation to cure her were practically nil; and when told of her condition as plainly and truthfully as I knew how, she decided to go home and die. We had a case referred by a physician, who when consulted by the patient about the condition, assured the patient that he had no cause for alarm and that if the Cancer began to eat, to come to him and he would cure it, and that it was impracticable to treat his case with the Xray, as it would ruin his eyes. The patient was persistent, however, and the doctor later referred him to us. In these cases the doctor is guilty of gross criminal negligence, and I only mention them to

impress upon you the importance of an early diagnosis and prompt treatment in all cases of Cancer.

One year ago we had a patient consult us in regard to superficial Cancer of the nose. We advised him that it could be cured and named a fee that he was amply able to pay. He decided, however, to rely on nostrums of more or less value, advertised by quacks and applied without any scientific knowledge. Last week two men helped him into our office, with his nose and right eye entirely destroyed, and he offered to pay us every dollar he had in the world if we would cure him. We advised him to go home, give his money to his family, make his peace with his God and die. He acted on our advice in the first and last item, to-wit, to go home and die; whether he did on the other items we are not informed. This leads me to say that there will come a day in every case of Cancer, if let alone, provided the patient does not meet his end by some intercurrent affection, when it can not be cured by any means and will produce death. It also leads me to say that the doctor is wholly responsible for the quacks who cure Cancer. I use the term cure advisedly, for they do cure many cases, be it said to the shame of the doctor. And if the doctors of this State will awaken to a sense of their duty along this line, and diagnose their cases of Cancer early and treat them properly, or if they have not the inclination to do it, refer them to a physician who will, the quack who treats Cancer in this State will cease to exist; and we owe it to ourselves and our people to do this. And allow me to say that in my opinion there is no lack of ability on the part of the profession of this State, but the most of mistakes made are due to failure to make a careful and painstaking examination. I am sure such has been the cause of most of my mistakes.

Let us speak more specifically of the treatment—Surgical Ablation of the part. When practical, this should always be resorted to, especially in Cancer of the uterus, no matter

how early diagnosis is made. Cancer of the breast and Cancer of an extremity when far advanced—this ablation should always be followed by X radiation. It is our opinion that we will never have a treatment for Cancer that will leave surgery entirely out of the question.

ABLATION BY MEANS OF PLASTERS.

All cases of epithelioma of the skin, if treated early, can be cured by plasters or paste, especially if no care is had for the cicatrix that will always result from its use. Hence in men who can not lose time to take the longer treatment by Xray, and who do not care for the cosmetic effect to be gotten by the ray, we can use plasters or paste to great advantage. But in women, who are always sensitive over a scar, whether on the face or other parts of the body, we would always use the ray. It is surprising, even to those who use the ray, what unsightly Cancers can be cured by the ray without leaving a visible scar.

THE XRAY.

I might say the treatment by light, as sunlight properly applied, the Finsen light and Radium would probably all produce the same result, but we are not yet sufficiently familiar, and may never be, with the method of using sunlight, to make it practicable. The Finsen light is too tedious, and Radium too expensive, to ever admit of either of them being used extensively, so the treatment by light narrows itself down to the treatment by X radiation, and there is now no objection since we know enough about it to prevent the burns that were once so troublesome. All cases of superficial Cancer can be cured by the ray. Will mention two cases where there was complete destruction of the breast by the cancerous process, and any other treatment than by X radiation was not to be thought of. The first remains well to-day after 18 months, the second was seen one year before treatment was begun, and at that time surgical ablation of the breast was

advised to be followed by X radiation. This was refused, and when she presented herself about 8 months ago, left breast was entirely destroyed, with involvement of axillary and supra-clavicular glands, and also involvement of the left breast and scalp. The treatment was used more as an experiment than as a cure, yet the ulceration in right breast healed and remained so, while the other breast seemed to be cured also, but patient died a few days ago, with Cancer of the right lung. In Cancer of uterus and other internal organs irradiation can not be depended upon for a cure, yet even in advanced cases that are too far gone to admit of surgical procedure, it relieves the pain and offensive discharge and prolongs life.

Dr. Whittington and the writer have discharged sixty cases of Cancer in the last two years from our Xray laboratory. Ten have been refused treatment on account of the advanced condition of the disease. All of them have died except case mentioned above, seen two weeks ago, and she will be beneath the sod before the frosts of autumn appear. Two were treated as a *dernier* resort. One of these mentioned above showed marked improvement, but died with Cancer of lung. The other was Cancer of the right cheek, and had been treated with paste by a quack. This showed marked improvement. Patient died of entero colitis, superinduced by inability to masticate food, and a ravenous appetite. We have treated four other cases of Cancer of the breast; one by Xray alone, no other treatment being applicable on account of its far advancement, remains cured. Second by surgical ablation, followed by irradiation, remains cured; third far advanced, by surgical ablation, followed in two months by irradiation, breast cured, died of Cancer of lung. Fourth, treated by Xray alone, because she refused surgical ablation, remains cured. Two others treated by surgical ablation, followed by irradiation, remain cured. One interesting case—M. aet. 72. Very feeble, Cancer of

chest over sternum, starting in a mole, treated first by a quack, because he could find no doctor who would treat it, or tell him where he could get it treated scientifically. When seen by us had Cancer size palm of hand on sternum, gland in left side of neck much larger than goose egg—right side neck as large as hen egg—gland in right axilla size of a walnut, gland in left axilla large as pint cup—fluctuating. Fluctuation was so marked that we incised it in office and emptied one pint of broken down cancerous tissue with much bleeding, packed cavity with iodoform gauze and began X radiation. Edges of incision became involved and was extending rapidly at end of four days. Sent patient to hospital and removed glands of both axillae, making careful dissection of brachial plexus and arteries and veins in left axilla. In doing so tore a hole in axillary vein; the vein was picked up with haemostatic forceps, and tied with good result and no untoward effects; operation lasted 30 minutes. At the end of five days patient was able to go to office, and at this time the cancerous process had attacked all the stitch holes and one and one-half inches of incision, although incision was healed. With irradiation the cancerous process was arrested and cured, also Cancer over sternum. Gland in right side of neck disappeared and in left side was reduced to one-third its former size. Patient gained 18 lbs. and went home after four months' treatment comparatively well and perfectly happy. Patient died three months later with dysentery. Another case was Cancer of the neck, beginning in a mole. This was treated by surgical ablation, followed by irradiation. She remains well to-day. Two cases treated by surgical ablation alone—both remain well. Twenty cases have been treated by pastes alone—all of them remain well. The remainder have been treated by Xray alone. All of them remain well but one, who showed marked—very marked—improvement, but treatment had to be abandoned on account of a stroke of apoplexy. Patient has

had a second stroke about two weeks ago, but is still alive. The record of our treatment then, not counting the two cases treated as a dernier resort, is as follows:

By plaster	20	Remain cured	20
By surgical procedure	2	Remain cured	2
By surgical procedure and X-ray	6	Remain cured	4
(Died, cancer of lung, 1)			
(Died, dysentery, 1)			
By X-radiation	20	Remain cured	19
	48		45

Out of 48 cases treated, 45 were cured, 1 died of Cancer, 1 died of dysentery, and 1 improved but treatment abandoned on account of apoplexy. A record to be proud of, I am sure. Finally, let me say once again—*all cases of Cancer can be cured* if diagnosed early and treated promptly and properly; all cases will die if let alone.

P. S. The week following the reading of the above paper before the North Carolina State Medical Society, Dr. William H. Mayo, President of the American Medical Association, in his Presidential address to that Association at its meeting in Boston, Mass., said: "Society must be taught the early symptoms of cancer, the greatest foe of humanity, that its early manifestations may be recognized while in the curable stage." The New York Medical Journal, commenting on this portion of Dr. Mayo's address, said he was a "little optomistic." But it is not so. He is simply a leader of thought.

Explanation of Cuts.—Fig. 1 was a carcinoma of the right breast. Treatment was begun five years after the tumor first appeared. Breast was entirely destroyed. Any other treatment than by the X-ray was not to be thought of. Cured, as shown in Fig. 2, by five months treatment with the X-ray, and remains cured after eighteen months.

Fig. 3 was an epithelioma of the left lower eyelid, involving the tarsal cartilage. Cured with beautiful cosmetic effect, as shown in Fig. 4. Treatment by the X-ray. Remains cured after six months.

SOME POINTS IN CLINICAL PSYCHIATRY OF INTEREST TO THE GENERAL PRACTITIONER.

BY ISAAC M. TAYLOR, M.D., MORGANTON, N. C.

The family physician, in whose practice occurs a case of illness accompanied by mental symptoms which develop independently of acute disease or persist after the subsidence of fever, and well into the period of convalescence, has presented to him either directly by the friends of his patient or by his own thought, several questions which require for an approximately correct answer the experience and the study of the alienist.

1st. Is the symptom complex in this case such that it should be termed "Insanity"?

Insanity is a term not possible to define, it is more of a legal than a medical term; it is relative and what is denominated insanity by one set of people is not so called by another.

To the alienist any prolonged departure from the normal mental processes not accompanying the acute diseases and independent of the use of intoxicating drugs, is termed insanity.

Under the common law and in countries where the development of the law has not recognized the disease conditions underlying deviations from normal mental states, there must be a test of the lack of mental integrity—an inability to distinguish right from wrong and an inability to control the actions and emotions.

The ordinary layman looks upon mania and dementia as the only insanities, and classes the equally insane paranoiac as a crank or criminal according as the degree in which his acts are offensive to the community and thinks the melancholiac lacks only action to remove his depression.

Taking a conservative position, we may consider a person insane who independently of acute disease and drugs, shows a marked degree of mental alienation, a wide departure from normal habits of thought and action, or who has become offensive to those with whom he has come in contact by reason of his mental state. Symptoms which point to a tendency to violence, homicide or suicide, should especially influence the family physician to a declared diagnosis which is always shocking, and often offensive, to the friends of the patient.

2d. Has the time arrived for separation from home and treatment in an institution especially devoted to these classes of invalids?

The modern idea of the treatment of all diseases calls for the equipment of a hospital, nurses trained for the especial work, construction of buildings adapted to the peculiar needs and physicians in ready call for emergencies. The Psychopathic Hospital is as much needed for the treatment of recent cases of alienation as are the surgical hospitals for the treatment of surgical diseases and emergencies. It is true that with care some cases may be carried to a successful ending in the home. Broadly speaking cases of Melancholia, of Dementia Praecox of the hebephrenic type and mild cases of Maniacal-depressive insanity in the depressed stage may, with sufficient nursing force, remain at home, always remembering that melancholia means a strong tendency to suicide, the precocious dement is subject without warning to do a violent act and that maniacal depressive insanity may with little notice pass from the depressed stage to the maniacal.

We should be very watchful, too, for unsuspected delusions and tendencies, the perverted sexual instincts, the sudden impulse to burn or do other mischief.

The paranoiac is usually unbearable at home, but may be trusted there until his delusions render him violent or show

him to be dangerous. The maniacal state of maniacal-depressive insanity should be treated only in a hospital. Without exception all cases of paresis, the general paralysis of the insane, should in the beginning stage of the disease be removed from the environment of home and all cases where in any form of insanity there is a marked homicidal or suicidal tendency. The demented states of all forms of insanity can be cared for by those anywhere who have the willingness to take the trouble, the patience to persuade to eat and the skill to feed by force when food is refused.

3d. Is the mental disease in this case in the class of those which will recover?

It is impossible for any one, however skilled or experienced, to say which case will recover. It is possible with reasonable certainty to pick out some which will not get well, but these sometimes will deceive us. It is, however, possible by close analysis to place a case in a class and reason from experience what chance it has for recovery; youth is a favorable factor in the prognosis; a small per cent. of the cases of dementia praecox will recover.

There will be apparent recovery in about half the cases of maniacal-depressive insanity occurring in persons under forty years of age. Melancholia, usually occurring as it does in elderly persons whose condition is one of degeneration with a marked lowering of vitality and usually associated with organic disease of heart, liver or kidneys and atheroma of arteries, points to an unfavorable prognosis.

Insanity associated with epilepsy we may regard as chronic, and while between times the patient may be quite well, showing no symptoms beyond an impaired mentality, we may be sure of another outbreak.

The paretic will not get well and alcoholic dementia, though running its course to a fatal ending much more slowly, gives no promise of other change than gradual and

positive decline in mind and body. As a rule a case of insanity with distinct auditory hallucinations is to be regarded as chronic. Insanities occurring in markedly hysterical subjects give promise of possible and often astonishing recoveries. Insanities the result of toxis, septicaenia, auto infestion or the acute diseases may be expected to recover with the removal of the cause. The factor of heredity must be considered in every case and has a very great bearing on the prognosis.

The cases of paranoia are hopeless from the beginning and cases of dementia praecox which have developed paranoiac symptoms are most unfavorable. We may conclude that a mistake in diagnosis has been made when a case called paranoia gets well.

4th. In the event of recovery, may we expect full recovery, or will there be permanent impairment?

The cases of insanity resulting from toxis, auto intoxication and the acute diseases may result in perfect and complete recovery. Some cases of dementia praecox may end in recovery so nearly perfect that we can point to no evidence of mental impairment. The maniacal-depressive forms of mental disease furnish the greatest number of apparent recoveries. The epileptic insanities are followed by a continuance of the recurring epileptic seizures and eventually by a permanent blunting of the mental faculties.

5th. May we expect a return of the mental disease in after years?

The occurrence of mental disease demonstrates a constitutional lack of nervous balance. Almost always a search will show hereditary cause, and these being present, under similar stress the mind may again give way and insanity develop.

The cases of maniacal-depressive insanity which recover will in many cases in after years again develop the prominent symptoms which we call insanity.

Cases which follow acute diseases, recovery being complete, and those cases caused by toxis, give the best promise of permanent recovery.

As civilization advances we find more and more the mental deterioration which the struggle for life brings, the effect of the use of alcohol to excess by forebears; the presence of syphilitic taint from personal infection or as an inheritance is more and more in each succeeding generation as we seek for the etiology of the cases brought to our attention.

In conclusion, there are no diseases to which such careful study must be given before a diagnosis is made as those of mind, and we may not pronounce any person insane before there is thorough study of the body functions and a complete release from commanding drugs, especially the more potent so-called hypnotics. A diagnosis having been made, there is no greater injustice to the patient and the family of the patient than, from fear of offending, to keep up the hope that the case will go on to recovery while continuing it in the conditions which must be most unfavorable for such a result. The hospital is not always indicated, but the hospital comes always before continued seclusion, the continued solicitude of injudicious friends and neighbors and especially before the continued use of sedative and sleep commanding drugs.

BELLADONNA—A STUDY OF ONE OF THE COMMON DRUGS.

BY R. E. MASON, M.D., CHARLOTTE, N. C.

It would, at first thought, seem that such an old drug as Belladonna would never be selected as a subject for a paper before this learned Society, in preference to some of the newer drugs, but I trust that while this paper is on an old subject, I may at least be able to recall to your minds some uses long forgotten, if I am unable to present anything new.

Atropa Belladonna—common name, Deadly Nightshade, Natural Order, Solanacae; habitat, Europe and Asia Minor; has as its chief chemical constituent Atropine, upon which its entire action depends.

PREPARATIONS AND ADMINISTRATION:

Extract Belladonna Leaves, alcoholic, dose=$\frac{1}{8}$ to $\frac{3}{4}$ gr.
Tincture Belladonna Leaves, dose=5 to 20 minims.
Fluid Extract Belladonna Root, dose=1 to 3 minims.
Belladonna Plaster, for external use.
Belladonna Ointment, for external use.
Belladonna Liniment, for external use.

Flaxen haired blondes are very susceptible to this drug, while children bear relatively larger doses than adults. Idiosyncrasies are common, but serious results rarely follow its administration.

PHYSIOLOGICAL ACTION.

External.—Belladonna applied locally acts as a local anesthetic and anodyne, because it depresses the ending of the sensory nerves.

It first contracts, then dilates the blood vessels and diminishes the secretion of the skin. If rubbed into the skin it is usually combined with such drugs as alcohol, glycerine, cam-

phor, or lanolin, which possess the property of passing through the skin, as it does not readily pass through an unbroken surface.

Internal.—The main action of belladonna is to depress the activity of nearly all varieties of nerves, especially those of secretion, sensation and the motor nerves of unstriated muscles, and to first stimulate then depress the three great medullary centers.

Secretory Nerves.—The activity of all the secretory nerves is diminished and their respective secretions lessened, except the urine, which is usually increased.

Mouth.—The mouth becomes dry after the administration of belladonna because the chorda-tympani is paralyzed, therefore a lack of secretion of saliva and mucus results.

Sweat Glands.—The nerves governing the secretion of sweat are also paralyzed, causing a diminution of the sweat.

Bronchial Mucous Membrane.—The secretion from this membrane is also lessened, and the sensibility diminished.

Mammary Gland.—The secretion of this gland, like the others mentioned, is diminished or arrested by the use of belladonna or atropine, whether applied locally or given internally.

INVOLUNTARY MUSCLES AND THEIR NERVES.

Stomach and Intestines.—Small doses of belladonna or atropine increases peristalsis, but large doses paralyze the nerve endings, and peristalsis is completely arrested. Gastric secretion is diminished.

Eye and Its Nerves.—In this case the terminations of the third nerve are paralyzed.

Heart and Its Nerves.—The terminations of the Vagus nerve are momentarily stimulated then paralyzed; therefore the number of the heart beats per minute are increased.

Vasomotor Nerves.—Medicinal doses of belladonna or atropine cause a constriction of the blood vessels in the

splanchnic area due to stimulation of the vasoconstrictor center. It also stimulates the vasodilator center for the vessels of the skin, which explains the flushing of the skin which often follows its administration.

The blood pressure is raised because of the combined action of the heart and blood vessels.

Respiration and Its Nerves.—Both the afferent and efferent nerve endings of the vagus are paralyzed by the administration of this drug, and this allows a relaxation and dilatation of the trachea and bronchial tubes.

Belladonna is not the respiratory stimulant it was once supposed to be, for while it first stimulates the respiratory center, its stimulating action is soon followed, in many cases, by depression, which makes it a very unreliable respiratory stimulant.

Brain.—Its action upon the brain is first that of a stimulant, but, if the dose is large, delirium soon follows, which in turn is followed by coma.

DIFFERENCE IN ACTION BETWEEN BELLADONNA, HYOCYAMUS AND STRAMONIUM.

Hyocymus is the best drug to combine with purgatives, as it is more effective in preventing griping, as it has greater power over peristalsis. It is also more of a sedative on the unstripped urinary muscle, and in diseases of the urinary tract, it is often indicated in preference to belladonna.

Stramonium has greater relaxing power over the tracheal and bronchial muscles.

With the exception of the above differences, belladonna is the best drug to use, as it is the most certain in action, therefore the most reliable.

USES.

External.—Belladonna is of use in the pain of inflammation, particularly that of gout, myalgia, lumbago and neu-

ralgia due to peripheral disturbances. In these cases atropine may be used hypodermically and a very small amount of morphine greatly enhances its pain-relieving properties. The ointment or plaster may be used instead of the hypodermic, but if an ointment is thought advisable because atropine possesses all the virtue of belladonna, an ointment of atropine is preferable to the unclean and unsightly official belladonna ointment.

A solution of atropine, one grain to the ounce, in glycerine rubbed into the breast, combined with a dry diet and compression, is the best method of drying up the secretion of milk. In mastitis a pledget of cotton saturated in this glycerine solution of atropine applied to the breasts usually is all the treatment necessary, but if abscess is threatened fluid extract of Phytolacca, 10 minims in water every three hours, added to this treatment, seldom fails to prevent the abscess.

A four to eight grain aqueous solution of atropine dropped into the eye is the classical treatment for iritis. It prevents adhesions, empties the engorged blood vessels, and, if adhesions have been formed, this treatment is usually successful in breaking them down. If any difficulty is experienced in breaking down adhesions that have been formed, a solution of physostigmine may be used to contract the pupil and then the solution of atropine again used, and in this manner adhesions can be destroyed.

In perforating corneal ulcers this solution of atropine is again indicated as the dilation of the pupil relieves a prolapse of the iris if it has occurred, and prevents if it has not.

Abscesses, carbuncles, superficial ulcers, and other like conditions are quickly cured by ointment of belladonna or atropine and puritus ani anal fissures and ulcers respond to the same treatment. Most excellent results have been secured in the last named conditions by the use of the following combination:

Rx.

Apropine, gr. ½ to 1.
Calomel, oz. 3.
Phenol, gr. 8 to 12.
Petroleum Q. S. to stiff paste.

Ungt.

Sig. Apply once or twice daily.

This ointment has all the virtue of belladonna ointment and does not soil the clothing.

Belladonna ointment usually combined with mercurial ointment, ichthyol and other drugs of this class is of great value in reducing chronic enlargement of the glands, as well as chronic inflammation of the joints and ligaments.

The ointment applied to the perineum is of great benefit in cystitis, spasm of the urethra, bladder and prostate, but belladonna in some form should also be used internally.

The ointment smeared around the os and on the neck of the uterus is of service in relaxing the os in spasmodic dysmenorrhoea and in labor, and while it gives goods results even when used in the form of a suppositary, chloral, viburnum, ipecac, manual or instrumental dilatation are the measures that are usually employed.

Local sweating is much benefited by local applications of this drug, but in this case also other drugs, among them formaldehyde, is probably the best treatment in many cases.

Belladonna plaster is an excellent treatment for cardiac irritability when applied over the organ. The plaster is also useful in pleurisy and pleurodynia.

Internal—On the Brain and Spinal Cord.—Belladonna stimulates the three great medullary centers, and this is the use to which it is usually put.

By contracting the blood vessels, causing them to regain their normal tone, it is of use in congestive headaches, men-

ingitis, myelitis, and encephelitis, but ergot hypodermically surpasses it in my experience.

Respiratory Tract.—Belladonna is of use in many cases of hay fever, and in acute coryza with profuse secretion it gives most satisfactory results.

The following prescription has been used by me for a number of years with universally good results:

Rx.

Quinia Hyd.
Dover's Po. Camphorated aa, gr. 24 to 30.
Po. Ex. Belladonna, gr. 2.
Po. Aloin, gr. 3.
Po. Capsium, gr. 12.
Caps. 12.

Sig. One capsule every three hours.

A bland antiseptic nasal spray or douche is an adjuvant of value, but has seldom been found necessary in my experience.

Camphorated Dover's powder must be used in this prescription, as plain Dover's powder will not give the same results.

Sore throat, with fever, redness and swollen tonsils is much benefitted by the use of belladonna, usually combined with aconite.

Asthma is probably best treated, and in the majority of cases, by a hypodermic injection of atropine, 1-100 grain, glonoin 1-100, and morphine $\frac{1}{8}$ to $\frac{1}{4}$ grain, which may be repeated in an hour if necessary.

Bronchitis and pneumonia, with profuse watery secretion, especially when there is also cardiac and respiratory failure with relaxed blood vessels, belladonna is of marked value, and should be administered in full doses. If in pneumonia we have cardiac and respiratory failure, but have no excessive bronchial secretion, then strychnine or spartenne is in-

dicated and should be given in doses of 1-30 grain for strychnine and one to two grains for sparteine every two to four hours, until the desired effect is produced.

Irritable cough, without profuse secretion, is much benefited by the use of this drug, because of its sedative action on the nerve endings of the bronchial mucous membrane.

Whooping cough probably has no better treatment than by the use of this drug, but to get the best results it must be given in large doses, and as will be remembered, children stand the drug well. The best method of administration is to prescribe a solution of one grain of atropine to the ounce, and direct that the patient be given one drop at the first dose, and increase one drop each dose until the paroxysms are relieved, or the classical symptoms of belladonna appear.

Opium poisoning is often treated by the administration of belladonna, and this is mentioned because in my experience strychnine has proven a better antidote, and so has caffeine given better results, than strong black coffee.

Under this head is probably the best place to mention the use of this drug for the night sweats of phthisic; given hypodermically 1-100 to 1-60 grain at bed time is one of the best treatments for this unpleasant condition. As the night sweats are principally caused by a depression of the vital powers, strychnine is of advantage to combine with this treatment. If the hypodermic method is objectionable, the same dose may be administered by mouth in a solution containing 15 drops of aromatic sulphuric acid, in addition to the atropine, which gives it a more decided effect.

HEART AND BLOOD VESSELS.

Belladonna is of use in sudden cardiac failure, although strychnine usually gives better results, but, in irritable heart and for the relief of cardiac pain and distress, it is to be preferred to the great majority of drugs. In sudden heart failure from the use of chloroform, it has saved life after all other drugs had failed.

Because of the additional supply of blood that is sent to the skin, this drug is valuable in the eruptive fevers, where the rash is delayed, in which case it may well be combined with aconite.

Inaccessible hemorrhages seem to be more favorably influenced by the use of belladonna than by any other drug, and in this case it should always be given hypodermically, preferably combined with a small dose of morphine to relieve the restlessness and alarmed state of the patient. It should always be combined with ergot in the treatment of post partum hemorrhage, and it acts very favorably in menorrhagia and metroragia.

Digestive Tract.—Because of the diminution of the secretion of saliva and mucous after the administration of belladonna it should be used in the ptyalism of mercury and of pregnancy.

In hyperchlorhydria, gastric ulcer, and other conditions requiring that the amount of gastric secretion be diminished, belladonna gives excellent results.

This drug is also of great value to combine with purgatives and laxatives, as it seems to prevent irregular peristalsis and in this manner prevents griping that would otherwise follow their administration. It also has laxative properties, and combined with strychnine and physos tigmine it gives most excellent results in constipation from atony of the bowels.

It has a beneficial effect in serious diarrhoea by giving tone to the intestines, and in this manner relieves this condition and in cholera infantum it seems to antagonize the poison, and has saved life when the case seemed hopeless.

Gastric, intestinal, hepatic, and lead colic are well treated by the hypodermic administration of atropine, and again morphine gives an ideal combination. Intussesception, volvulus, appendicitis, strangulated hernia and obstruction are markedly benefited by the administration of belladonna, be-

cause of its known power of relaxing spasm and stopping peristalsis when given in large doses.

In volvulus and intussesception, as stated above, it must be given in large doses, for in these cases we wish to paralyze the peristalic action of the intestines, and in this manner relieve the undesirable condition of the patient. This treatment should always be given a trial, for even when it is not successful in relieving the volvulus or intussesception, it acts in a favorable manner over the blood supply to the parts, and gangrene seldom occurs.

Cases of intussusception treated in this manner, and in which the treatment was not successful, and which were subsequently operated on, were found to be in a condition which at first sight seem to be gangrenous, but upon relief of compression the tissues soon regain their normal appearance.

In appendicitis, where the pain is paroxysmal, and in cases where gangrene is feared, in my opinion, belladonna is indicated because in the first case the pain is caused by an occlusion of the mouth of the appendix, and in the latter case by a cutting off of the blood supply, or, because the tissues are overwhelmed by the germs present, and in both of these cases, because it relaxes spasm and increases the blood supply, it is indicated and should be used. Again when the mouth of the appendix remains patulous from the use of this drug, or from any other cause, there will not be as much accumulated mucus and germs remaining in the appendix, and the less mucus and virulent germs in the appendix the less danger from gangrene and rupture. This treatment will in no wise interfere with any other treatment, and because of this fact alone it should be given a trial.

In strangulated hernia the patient's hips should be elevated, an ice bag applied, and 1-150 grain of atropine administered hypodermically every hour until its full effects are produced, and this treatment should be considered before

an operation is done, especially if the patient's surroundings are unfavorable. In spasm of anal sphincter due to ulcer or fissure, the drug is of decided value, as it tends to cure as well as relieve.

Genito-Urinary Tract.—Pyelitis is favorably influenced by belladonna, as is also nephritic colic, in which case it should be given hypodermically in moderately large doses combined with morphine. It is also useful in spasm of the bladder occurring in cystitis, calculas or from any other cause. Prostatitis is also well treated by the administration of suppositories which are also very commonly used in the other conditions just mentioned, usually the aqueous extract being preferred. Incontinence of children is another condition well treated by this drug when caused by a relaxed vesical sphincter or an irritability of the vesical mucous membrane. It gives tone to the sphincter and as atropine is excreted by the urine it causes the mucous membrane to be continually bathed in a weak solution of atropine which acts as a local anesthetic, and in this manner prevents it from sending erroneous messages to the brain. To be effective it must be given in large doses, and in this case, as in whooping cough, a solution of one grain of atropine to the ounce should be prescribed and the dose should be gradually increased.

Spermatorrhoea caused by lack of tone of the organs is well treated by the administration of belladonna in some form, combined with good hygienic surroundings, and the assurance of recovery.

As previously mentioned, applied locally belladonna is of value in spasm of the os uteri, and while it has not so marked an effect when given internally as when applied locally, still it is of value. In ovarian neuralgia and other painful pelvic affections it gives most satisfactory results, but in the majority of these cases it should be combined with other

drugs having pain relieving properties, and the patient should also receive general tonics, such as iron, quinine and strychnine.

ABUSES

Belladonna is useful in so many diseases that it is hard to find anything in which it is contra-indicated, but it is not advisable to use it in deep corneal ulcers in which rupture is threatened, neither should it be used in glaucoma, for in either of these conditions an increased intra-ocular tension, such as produced by belladonna, is very apt to produce irrepairable injury.

It should not be combined with morphine in the treatment of puerperal eclampsia, because it stops the secretion of sweat, which should be increased instead of being diminished; besides, it is of no use in spasms except those of involuntary muscles, especially those of the hollow organs.

It is quite probable that the above very nearly covers the abuses of belladonna, but in opium narcosis is very liable to be abused, unless very carefully administered, as it is very easy to superimpose a belladonna narcosis upon an opium narcosis.

INTESTINAL INDIGESTION—ITS DIETETIC AND RATIONAL TREATMENT.

BY J. E. ASHCRAFT, M.D., MONROE, N. C.

This suject has been chosen because there is very little attention paid to the discussion and treatment of intestinal indigestion in our modern works upon medicine, and also for the reason that the malnutrition consequent upon intestinal indigestion is largely responsible for almost every disease that occurs in the human organism. To perfectly understand intestinal indigestion necessitates a clear conception of the chemical composition of the common foodstuffs, and the transmutation process that they must undergo before they can be absorbed and assimilated. This accomplished, the abnormal is quickly and accurately detected. Briefly stated, all foodstuffs when minutely studied chemically are found to be composed of three distinct classes of compounds:

First, the inorganic substances, or those which enter the system under their own form, pass through unchanged, and come out in the same shape that they entered. They assist the economy physically rather than by chemical activity.

Second, the carbohydrate and hydrocarbon compounds, such as the starches, sugars, and fats. All of this group act primarily through chemical action, being oxidized into carbon dioxide and water with the production of heat.

Third, the proteids, of which there are two grand classes: the vegetable proteids or those existing in a polymeric state, and the animal proteids, which are in the form of single malecules.

The chief causes of intestinal indigestion are of two kinds: First, the presence of micro-organisms, and the fermentative changes produced in the food-stuffs in the alimentary canal by their presence.

Second, the taking of considerable more food than can be

digested and perfectly oxidized, and also the taking of food of faulty composition.

To these may be added, not as direct causes, but as conditions which influence perceptibly the perfection of digestion and assimilation, the kind of work which the individual has to perform, the lack of exercise, the peculiar conditions of the nervous composition, the mental state, climatic influence, etc., all of which play their part in influencing the digestive phenomena.

The micro-organisms are apt to excite the more pronounced lesions of the alimentary canal, such as true inflammatory conditions. Still, it must be admitted that most of the abnormal fermentative processes that occur in the food-stuffs in the alimentary canal have their origin in some form of micro-organisms. While micro-organisms are always present in the alimentary canal, the normal secretions and digestive processes appear to be sufficient to prevent any deleterous influence from their presence, or any disturbance in the normal digestive phenomena.

The most important fact, then, in the production of intestinal indigestion, is the mistake of too much food, and especially that which is faulty in composition (as the substituting of cow's milk for human milk in infant-feeding), or the use of vegetable or starchy foods in young children before the full development of the digestive organs.

The milk-sugar, the fat, and the proteids contained in the milk of the mother, are in that condition in which the digestive apparatus of the infant can most easily transmute them into an absorbable state, while the chemical composition and proportions of the sugar, fat, and the proteid in cows' milk are differently arranged, consequently, not available in its natural state for perfect results in infant-feeding. Consequently, the use of cows' milk alone is prone to produce digestive disturbances and malnutrition. When properly diluted and modified by the addition of other substances, such

as eggs and barley-water, cows' milk can be made available for infant-feeding. The mother's milk, when of perfect composition, yields the highest degree of nutrition with the least tax upon the digestive powers of the child. All deviations from this fixed plan of nature tends to lower the nutritive vitality and ultimately excites intestinal indigestion.

In the adult, over-indulgence in food may be sufficient to cause intestinal indigestion. But when this is coupled with faulty composition, a decided disturbance in the digestive process must follow sooner or later, depending upon the inherent chemical activity of the organism.

From a careful study of the normal process of digestion, it becomes apparent that a well-regulated mixed diet is the most desirable at all times, except in early infancy, old age, and in some diseased conditions, when a purely milk diet is the most desirable. A well-regulated mixed diet is one that contains the mineral ingredients common to the animal organism, the starches or sugars, the fats, and the proteids all so proportioned that the requisite amount of heat will be produced by the carbohydrates along the line of the entero-hepatic system and by the fats in the lungs, and the full amount of constructive material supplied.

The animal and vegetable kingdoms both contain these three classes of substances. No one of them is perfectly adjusted, however; for the best results, although milk, so far as composition is concerned, comes very close to perfection. But milk, like every other single article of food, has its defects. Therefore, to secure the most perfect results the animal and vegetable compounds in some form should be blended together in outlining a well-regulated mixed diet.

The vegetables, taken alone, contain an excess of the starches and sugars, and comparatively little fat. Their contained porteids, which often exceeds in percentage that found in the animal kingdom, is less available for assimilation

than the latter, because owing to its highly polymeric structure, it is less readily split up to meet the requirements of the organism, and is much more difficult to convert into a peptone. In fact, the task is so great that from 15 to 60 per cent passes through the alimentary tract without being so transformed, while with the animal proteids the loss is only from 2 to 10 per cent.

Therefore, when living upon an exclusive vegetable diet a large bulk of unavailable material must be taken into the alimentary canal to secure the absorption of the requisite amount of proteid substance. With this there is also an excessive amount of starch and sugar, and a deficient quantity of fat. If the individual has been blessed with a strong digestive apparatus, and can lead a comparatively leisurely and out-of-door life, many years may pass without material damage to the economy upon a purely vegetable diet. If, on the other hand, adverse conditions are imposed, as they frequently are, with such a diet, intestinal indigestion and various forms of malnutrition will speedily follow.

The liberal use of fruits is another very potent factor in exciting abnormal fermentation of the food-stuffs in the alimentary tract. It is the irritation that arises from this disturbed action in the transmutations of the food-stuffs that makes them laxative in their nature. Many of the fruits in the market are plucked before they have had an opportunity to fully ripen; in their raw state they are often laden with micro-organisms, and at best are in a state of partial decomposition when they are introduced into the alimentary canal. Therefore, they should be avoided as laxative agents.

A meat diet alone is defective, in that it does not contain any glucose compound; but when the term "animal diet" is used in its true meaning, it includes milk, eggs, butter, cheese, and all the products that are obtainable from an animal source. Under these conditions, all the three classes of

chemical compounds are fully represented in an animal diet, and can be secured easily in the required proportion.

On the other hand, when the term vegetable diet is used accurately, it excludes the use of butter, lard, eggs, and milk, and very animal product, even in the process of cooking. When this is done it is found to be absolutely impossible to construct an exclusive vegetable diet in which the three classes of chemical compounds are properly proportioned. A near approach to perfection in composition, even if such were possible, would still necessitate the introduction and transmission through the alimentary canal of a large amount of waste and irritating material, owing to the great indigestibility of the vegetable proteids. Consequently, sooner or later, the system must suffer. It is for these reasons that the excessive use of the vegetable compounds and fruits is so prone to excite intestinal indigestion. In a similar manner an animal diet may result in intestinal indigestion, not so much from faulty composition as by the too liberal use of the animal food-stuffs.

These, then, are the essential conditions or factors that tend to, and do actually, cause the innumerable cases of intestinal indigestion which are constantly presenting themselves for treatment.

The clinical feature presented in connection with intestinal indigestion is an exceedingly complex and varied one. The symptoms may be acute or chronic in their nature. It is the chronic class, however, that are the most important and the most varied in symptomatology.

In the purely acute intestinal indigestion there are so many primary gastric symptoms. The food taken has passed through the stomach without exciting gastric irritation. When the food-stuffs reach the intestinal tract, some two or three hours after the last meal, or even at a still later period, an abnormal fermentation is developed. Instead of the nor-

mal transmutation products of digestion, which give rise to no perceptible symptoms, abnormal products are developed, some of which are of a gaseous nature and cause considerable distension of the intestine, thus expanding the intraperitoneal cavity, and in some instances giving rise to actual and severe pain. This is especially true when the transverse colon becomes distended and crowded upward behind the stomach and in front of the vertebral column. When this is the case, undue pressure is brought to bear upon the solar plexus, which may cause an intense pain located at the pit of the stomach, or the pain may be more or less diffused throughout the abdomen. In other instances, the distension simply causes a sensation of intense discomfort. In either case the distress continues until the gases are absorbed or discharged from the alimentary canal by being passed through the rectum and anus, or by being regurgitated into the stomach, from which they are belched up and discharged per os. This localized pain and belching of gas often cause the false impression that the stomach is at fault. The distention of the abdominal cavity often crowds up the diaphragm, which, together with the reflex disturbance in the nervous system, causes embarrassed respiratory action, and a rapid and irregular heart action.

At the same time that the gas is formed, or even without much gas formation, toxic products, or ptomaines, are produced in the alimentary canal. These, when absorbed into the circulation, together with the peripheral irritation of the nerves distributed to the alimentary canal, cause marked constitutional symptoms and reflex nerve phenomena. The individual may have severe head, heart, and back-ache, and a sensation throughout the whole system as if he were under the influence of some toxic agent. There may be rise in temperature and a scanty elimination of urine. All these symptoms will rapidly disappear after free action of the bowels, obtained through a mercurial; and that simulated strongly

the beginning of an acute infectious disease will prove to be simply a case of intestinal indigestion, the normal state rapidly taking the place of the previously abnormal condition.

In the chronic cases it is much more difficult to exclude the stomach. In fact, in many instances, it is impossible, because the long-continued imperfect intestinal indigestion has caused defective action on the part of the liver, pancreas, and all the organs which are concerned in digestion. A state of general malnutrition has been established, and the stomach has become weak and irritable in consequence. In other instances a primary gastric disturbance will lead to intestinal indigestion.

A careful study into the history usually shows that the stomach is not primarily at fault. The meals cause no primary disturbance or discomfort. There is no pain or vomiting upon taking food, the individual affected often declaring that he can eat everything, and that nothing disagrees with him. Yet these same individuals will complain of great discomfort in the abdomen, coming at varying times after taking a meal. The intestines become greatly distended with gas, and the victims often experience intense attacks of pain, relief coming, aften an hour or two of acute distress, by the regurgitation of the gas back into the stomach, from which it is finally belched up and discharged per os. Observing such cases closely, the tongue is found to be soft and flabby, often showing the deep imprints of the teeth along its margins. The dorsal aspect is more or less heavily coated with a dirty brown fur. The conjunctivæ and mucous membranes in general are pale, and show a decidedly anemic state of the blood. Instead of the clear and ruddy complexion indicative of perfect nutrition, the skin has a dull, muddy appearance—one hard to express in words, but quickly appreciated by the well trained eye. The sclera and conjunctiva are more or less tinged yellow, showing that the function of the

liver is imperfectly performed. Depending upon the character of the faulty action of the liver, there will be defective bile secretion of two kinds. The bile may be decreased both as regards quantity and quality. When this is the case, obstinate constipation is the rule. When the quality of the bile is altered rather than the quantity diminished, it is often unduly irritating to the intestinal mucous membrane. This, together with the irritating products resulting from the abnormal fermentation of the food-stuffs contained in the alimentrary tract, will, as a rule, produce a diarrhea. The diarrheal discharges often contain more or less mucous without any inflammatory action in the intestinal canal. These discharges are also very irritating, and often produce considerable pain and tenesmus in the lower bowel and anus. The urine is apt to be scanty, high colored, and superacid. The elimination of urine is decreased, and the output of uric acid is abnormally large. The bile salts and pigments are usually found in such samples. Oxalic and lactic acids, albumin, and glucose may be found in some of the more aggravated cases. This superacid condition of the urine, together with the consequent malnutrition dependent upon the long-continued intestinal indigestion, causes an unhealthy condition of the mucous membrane lining the genito-urinary tract, with a hyperesthetic condition of the nerves which are distributed to this canal. The over-acid urine now acts as a constant irritant to this supersensitive membrane, thus causing considerable vesical irritation, painful and spasmodic action on the part of the bladder similar to what occurs in connection with a true cystitis. There is frequent and painful micturition. It is often for these symptoms that the physician is first consulted, and the poor victim is vigorously treated for the local condition, while the true cause of all the trouble passes unrecognized and untreated. This continued absorption of toxic compounds from the alimentary tract, to-

gether with the reflex nervous irritation, keeps the liver continually overtaxed. The central nervous system is poorly nourished and unduly irritated. As a necessary sequence, we have a large and varied train of nervous manifestations. There may be: intense headache, continuous or intermittent in character; mild or severe neuralgic attacks confined to single nervous trunks, or multiple in distribution, simulating in some instances a rheumatic attack. There may be insomnia, or a strong tendency to suicidal mania. There may be the opposite, or a stupid, sleepy condition, almost reaching semi-coma. In other instances all the symptoms common to the most aggravated neurasthenia are directly traceable to the prolonged intestinal indigestion, abnormal fermentation, and toxic infection.

All the non-parasitic skin affections are, in a large measure, only the symptoms of intestinal indigestion, and not independent diseases. Thus we find the phenomena of intestinal indigestion presented on one great complex of symptoms, which are often misleading, and, by their local intensity at one point or another, often lead to absolute errors in diagnosis, followed by unsatisfactory results from the best efforts in the line of treatment. Accuracy in diagnosis in these cases can only be secured by a full comprehension of the physiological laws which govern the processes of digestion and assimilation by a careful study of the patient's habits, and of the method of the development of the symptoms, so that effects are not mistaken for causes.

The prognosis in these cases is good if they are recognized early and carefully treated upon a physiological and rational dietetic and therapeutic basis. The prognosis is less favorable when they have been allowed to go on for years, until some of the secondary effects become in themselves almost diseased processes. Then it becomes, in some instances, almost impossible to effect a cure.

The chief line of treatment to be employed in combating intestinal indigestion consists in regulating the diet in accordance with the well-known physiological laws that govern animal life. The physician must be thoroughly conversant with the chemical composition and possibilities of the various food-stuffs. A careful study must be made of each case separately and every idiosyncrasy for or against all food products accurately noted. The urine must be carefully examined, not so much for albumin and glucose, as to determine the comparative output of urea and uric acid, and also to ascertain what other forms of incomplete katabolins may be present in the renal secretion. This accomplished, the diet must be regulated absolutely both as regards quantity and composition. The particular kind of food must be prescribed with just as much precision as the medicaments that are used. At the same time the urine must be examined frequently and the exact modifications in the elimination of the katabolic products carefully noted. When this is done systematically, the exact changes in the system can be determined accurately from day to day.

In prescribing a special diet, one principle should always be kept in mind, which is that a well-adjusted mixed diet, when it can be perfectly digested, is the height of perfection. It will secure the most complete transmutation of the food-stuffs, and in consequence absorption and assimilation will reach the highest standard, and perfect health will be established.

In almost every instance of intestinal indigestion the mixing of the various kinds of food-stuffs, as is commonly done, will not be tolerated by the enfeebled and already defective digestive apparatus. So long as this plan is pursued the case will not improve. In all cases of intestinal indigestion, from the mildest to the most intense type, it is absolutely necessary to limit the diet to a greater or less extent, both as

regards quantity and the kind of food-stuffs taken. In many instances it may be necessary to limit the diet to a few articles of food, as milk, barley-gruel, or broths; very limited amounts, so much so that, at times, the patient may even lose flesh, while the defective digestive function is being slowly but surely re-established. The fancy of the patient must not be considered, but that form of diet must be chosen which will be most effectually digested and yield the largest amount of nutrition. It may be wise at times to take out in a large measure the fat or the sugar from milk. This can be accomplished by ordering an exclusive skimmed-milk or buttermilk diet, or, on the other hand, a diet of kumyss or matzoon, the former taking out the fat and the latter the sugar. When any one of these limited plans of dieting is resorted to, the heat production necessary to keep the nervous mechanism fully in action falls to too low an ebb. When this is the case, a little alcohol must be added, as it can be oxidized and produce heat without expending any digestive energy, thus making up in a measure for the defective heat production. In other instances, the plain milk diet will accomplish the best results. This is especially so when the milk is taken warm, or with a little lime-water, barley-water, or egg-water added. Other cases will do better by excluding milk in any form, and limiting the diet to broths, gruels, eggs, etc.

An important point, which must be kept always in mind when a patient is placed upon an exclusive animal diet of any kind, is the well-known chemical fact that all animal food-stuffs contain a very low percentage of the nucleo-albumin—not enough to produce the hemoglobin and lecithin as rapidly as they are decomposed in the animal economy. This being the case, even if the subject is not already anemic, there is a tendency for them to become so upon an exclusive animal diet. Consequently, some hemoglobin-forming com-

pound must be continuously administered to supply the deficiency. As the vegetable class of foodstuffs contain a large percentage of the nucleo-albumin, it should be our aim to introduce some form of vegetable compound in limited amount as speedily as the digestive system will tolerate their presence without exciting undue fermentation. By so doing we supply most effectually the natural and only compound so far known to physiological chemistry, out of which the physiological economy can easily and rapidly increase the hemoglobin and overcome the anemia. Many of the succulent fruits and green vegetables contain the largest percentage of this nucleo-albumin. When they can be tolerated, they are valuable for this purpose; but, as a rule, they tend to excite so much abnormal fermentation of the foodstuffs in the alimentary canal that they must be excluded absolutely. The vegetable substances that furnish a full supply of nucleo-albumin without abnormal fermentation are barley, rice, wheat and rye; barley and rye being especially valuable on account of the high percentage of the nucleo-albumin.

The mixed diet which most effectually meets the foregoing demands, as soon as it can be tolerated, is one composed of milk, eggs, meat and toast, or stale bread and butter. Under the heading of meat is included fish of all kinds, game, and poultry. Beef and mutton are taken, however, as the standard from which all the other forms of meat are calculated. If one particular form of meat can not be tolerated, another kind must be substituted. In like manner, if milk and eggs can not be utilized, some other form of food-stuffs must be substituted. The same rule holds true in the selection of the vegetable substances. When these details are all observed carefully, a well-regulated mixed diet can usually be secured —one that will furnish the requisite amount of all the chemical substances that are required to sustain the animal economy and still keep well within the limits of the oxygenerating capacity.

The medical treatment of intestinal indigestion consists in the use of a little dilute hydrochloric acid, either alone or in combination with some pepsin, preferably alone, to augment the transmitting or peptonization of the proteids in the stomach. This accomplished, the amount of work imposed upon the intestinal digestive function is reduced to the minimum. Transmutation of the food-stuffs in the intestine can be greatly augmented by the use of a few grains of inspissated ox-gall and pancreatic extract three times daily before eating. The undue fermentation is also checked in part by these substances. To this may be added animal charcoal, resorcin, salicylic acid, naphtalin, phenacetine, or any one of the numerous intestinal antiseptics, so-called, that may suit the fancy of the prescriber. None of them will produce any profound and startling results, but they assist in a measure to subdue the abnormal fermentation. When the liver is performing its function abnormally, and the tissues are stained with bile pigment, a mercurial of some form is in order, and is always followed by an improvement in the general and local condition.

When constipation is a prominent symptom, it must be overcome by some laxative agent, which acts upon the normal plan of nature.

Caffeine and strychnine are valuable agents in intensifying nerve innervation. They also augment the intestinal circulation, and cause a more rapid and equable distribution of the blood throughout the body.

X-RAY TREATMENT AS A PREVENTATIVE OF RECURRENCE FOLLOWING EXTIRPATION OF MALIGNANT GROWTHS.

BY W. D. WITHERBEE, M.D., CHARLOTTE, N. C.

There is probably no one disease in medicine which is of such general interest to the medical fraternity as this; not alone to the specialist but to every general practitioner, for there is not an organ or tissue in the body that may not, under the proper circumstances, be invaded by some form of malignant growth.

For convenience of description it might be well to divide all malignant growths into superficial and deep. The superficial being those forms that are ordinarily called epitheleomata. The deep including the various forms of carcinoma and sarcoma.

The most chronic and least malignant form of epitheleomata is the rodent ulcer, which usually makes its appearance late in life, somewhere about the eye or nose. It is usually first noticed by the patient as a small scab or crust, which soon drops off, only to form again, each time the ulcer itself gradually increases in size and depth. This form therefore continues in its growth only by continuity and contiguity of tissue, in which case the line of travel of the cancer is infiltrated by cancer cells, invading only the tissues in the immediate neighborhood and not being carried to the glands and various organs of the body by either the blood or lymphatic vessels. Its growth is slow but progressive, and will, if not checked, destroy the life of the patient.

The other forms of epitheleomata often start in the various warts and molds, which for some unknown reason, generally attributed to chronic irritation, suddenly take on a malignant process, which varies much in degree of malignancy; or it may start in an old ulcer, as in the case of

epitheleomata of the tongue. This form may have secondary deposits in the verious lymphatic glands that filter lymph coming from the part affected. This lymphatic involvement from any tumor or ulcer depends largely on the rapidity of its growth.

The treatment recommended in these cases is the use of a paste which may contain any of the deep caustics or escharotics, or treated surgically by complete removal, or by X-ray.

In some of the more chronic and least malignant cases the paste will sometimes remove the condition, however this too often fails and only sets up an irritation that produces a great activity of cell proliferation, and thus lights up a most rapid malignant condition so that the use of another plaster may be practically impossible. In removing cancer we are told by the surgeon to cut wide of the disease; this done it often happens that the disease soon after returns in the same place. Even when specimens are taken from the wound after the tumor has been removed and pronounced normal by the pathologist, the disease may return in the scar. This goes to show that the infiltration of normal tissue by cells that may be carried from the tumor and have not yet reached the stage of development which would indicate their character, so that one can not absolutely, even with a microscope, distinguish between a normal cell and a pathological cell.

If the X-ray is used in these cases, especially at the time when most cases are treated with caustics, at least 98 per cent of them will disappear completely. When exposing the patient to the ray it is essential that the part exposed should extend well out into the normal tissue as well as the diseased area.

The subcutaneous and deep malignant conditions invariably, in the course of time, spread either to the lymphatic glands or, as in the case of melonotic sarcoma, which is spread to every organ in the body by the blood stream. So

that on post-mortem examination of a case of melano sarcoma one finds metastaces in almost every organ and tissue of the body.

Among the subcutaneous variety the ordinary schirrus carcinoma of the breast will furnish the best example. In these cases the first signs of the disease is marked by the patient noticing a small tumor in the lower and outer quadrant, which may be discovered accidentally or her attention being called to it by a few sharp pains in this region. The patient is then referred to a surgeon, who operates immediately. The operation consisting of a thorough and complete removal of the breast exillary and clavicular glands and usually a careful dissection of the deep fascia and a portion of the pectoral muscles. Even with those cases where this most extensive dissection is carried out there are many recurrences.

In doing this operation the best authorities advise first dissecting out the glands and finally removing the breast, taking out, if possible, the glands, breast, etc., in one mass. The reason given for this procedure is that it has become an established fact that the local recurrence of the disease may be due to infecting the wound with some of the cancer cells during the operation.

From the reports of the recent cancer research committee it looks at present as though there is no definite germ of cancer, and that the exact cause of origin is as yet undetermined, also that a cancer cell when carried from the original site has the power to grow and produce a malignant condition in another organ or tissue.

That the glands in the axilla are involved in schirrus carcinoma of the breast is well known, although they may not show any evidence of it for some time. If the condition is not of a schirrus variety, but of more rapid growth and hence softer and more fungating, the glands are involved much earlier. This, therefore, indicates that the more rapid

the growth and the softer the tumor the more quickly are the cells liberated from the mass and carried by the lymphatics to the neighboring glands.

The process of invasion of both the local tissue and the lymphatic glands might be compared for the sake of illustration to a sponge filled with water, surrounded by a layer of cotton placed in a rubber bag, from which various small tubes may extend. Any pressure then on this bag will express the water from the sponge to the cotton, and then out through the various tubes. The sponge representing the tumor, the cotton the local tissue, and the tubes the lymphatics.

Now, as these rapidly growing cancers, as well as the schirrus variety, are often found in regions where it is practically impossible to avoid pressure, it is therefore true that malignant conditions occurring in these regions spread faster and produce fatal results much sooner than malignant conditions in other locations.

Suppose then the surgeon, in operating on a case of this kind, has carried out a most complete dissection and removed the whole mass of glands, breast and tissue, as recommended, and has kept wide of the disease, only cutting in healthy tissue, and then has a recurrence.

I believe that the operation at best is crude for this reason: The object of the surgeon in these cases is to remove every cancer cell that is present, and this he can not do until some means is devised to point out just how far the cells have been carried into the neighboring tissues and glands, even though he does not infect his wound directly by opening into the original tumor itself and allowing it to discharge some of its cells into the wound.

Some of these cases do not recur, and in those that do recur some time elapses before it makes itself evident, provided the operation has been complete; therefore I believe that before long all surgeons will consider a course of X-ray

treatment immediately after the operation as essential as the operation, in that it will destroy the few remaining cells which cause the recurrence, and in this way greatly increase the percentage of complete cures.

In regard to the time the X-ray treatment should be begun, the patient should be treated on a stretcher the day following the operation. This may seem rather a radical procdure, nevertheless the cells which may be in the open wound or in the adjacent tissue will be more completely destroyed in a much shorter time when the wound is fresh and open than when one waits for union before beginning treatment. The open wound not only greatly facilitates the direct action of ray on the cells remaining, but also affords free drainage for all the lymphatic vessels in this region which may be laden with cancer cells.

It might be said by some that this treatment will interfere with the healing of the wound, because the ray would produce a certain amount of endarteritis, and thus interfere with the granulation tissue and produce more scarring. Even if the wound was delayed in healing and a larger scar resulting, all of which can be avoided by careful dosage, it is nothing as compared with the recurrence which so often follows.

In cases where radical operation is impossible and the chances of complete recovery are almost nil, the course of X-ray treatment will lessen the discharge, control the hemorrhage and, to a surprisingly great extent, allay the pain, so that the patient during these last hours will be made more comfortable, and thus die of exhaustion similar to cases of pernicious anemia and old age instead of the suffering and agony usually seen in the last stages of this disease.

SERUM THERAPY.

BY T. G. HAMRICK, M.D., CAROLEEN, N. C.

It will be impossible to enter into a thorough discussion of the principles upon which serum therapy depends, in the short space of time allotted me on this occasion. But they must be kept clearly in mind in any discussion, as to the value of the method. Therefore I will review, briefly, the results of the researches of some of the most popular scientists on the subject.

Antitoxic therapy, as Behring says, is that by means of which we endeavor to combat those infectious diseases which we know are caused by the poison of micro-parasites. The antitoxins have, as yet, only been found in the blood of immunized animals. Each antitoxin exerts a curative influence or action only against the disease product corresponding to it. Antitoxic therapy is, therefore, in the highest degree specific therapy.

Just what the antitoxin is, we have not been able to learn, further than that it is a soluable substance, and when in excess of the toxin renders the latter inert.

Ronx states that it can not be derived from the toxin because an animal can be bled to the extent of the total amount of its blood, without appreciably diminishing the antitoxin. He explains it by the theory that the toxin acts as a stimulant to the cells, causing them to secrete the antitoxin.

Behring considers the antitoxin to be the product of the reactional albumin of the living cells, which is acted upon by the specific, under circumstances that point to a general disturbance of the regulating apparatus of the system. When an infection is survived the amount of the antitoxin produced is more than enough to neutralize the toxin. This excess of antitoxin is found in the blood and can be used to

aid other individuals in overcoming the same infection. Upon this one point, namely, the excess of antitoxin in the blood serum, rests blood serum therapy.

Diphtheria lends itself, perhaps more easily than any other of the infectious diseases, to this mode of treatment, because of its purely local origin. Abbot says the disease is not a septicemia in the sense of being associated with a distribution throughout the body of the micro-organism, causing it, but is strictly a toxemia primarily, though a septic condition may be engrafted later.

It has been found by experiment that an animal furnishes a serum, the antitoxic properties of which are stronger in proportion to its sensativeness to the toxin. Hence the horse is chosen as the best animal for obtaining serum. Also, horse serum, even in large doses, is not harmful to man. It has been observed further, that serum containing antitoxin, when mixed with cultures containing toxin, renders the latter inert; an injection of the mixture into an animal produces no results. If the toxin and antitoxin are injected separately, but at the same time, no effect is produced; and the same result is obtained if the antitoxin is given first. If the toxin is given first the quantity of the antitoxin must be increased in proportion to the interval. So to be successful in combating disease with antitoxin we must regulate or increase the dose, according to the time the disease has been operating on the system.

If the natural resources of the cells in the body, being stimulated by the toxin, are sufficient to produce an excess of the antitoxin, the body needs no assistance in overcoming the infection; but we never know this until it is too late for us to accomplish any good in trying to aid nature to overcome the difficulty.

In view of the fact that an excess of the antitoxin is not harmful, it is our duty to supply the needed amount at the

time or even before the infection sets in, if within our power to do so.

The value of the anti-diptheric serum, both as curative agent and prophylaxis, can not be measured by dollars and cents. We have reports from many experimentalists stating that the injection of very small doses of anti-diptheritic serum, viz, 100 to 500 units, repeated every three or four weeks, will act as a prophylaxis under constant exposure, to the contagion. One experimentalist reports nearly 1,500 cases in which the injection of from 100 to 500 units, and repeated every three weeks, and at the same time being exposed daily, only two cases of diphtheria developed. A number of others report equally favorable results. One attack of diphtheria does not immune its subject from another attack but for a comparatively short time; therefore, it is necessary to repeat the injection as often as exposed after the lapse of three or four weeks time from each previous dose.

There are a number of the contagious and infectious diseases, such as measles, whooping-cough, scarlet fever, etc., which one attack immunes against another for life, and I have no doubt but the time is coming when there will be a serum produced that will immune against each of these diseases respectively. Serum is now being used to a certain extent in many of the hospitals in cities and large towns in the treatment of tetanus, tuberculosis, cholera, snake venom, etc., with some success and some failures—the failures not due, perhaps, to principle, but to the mode of obtaining the serum and its administration.

There has never been a remedy introduced that has been so unanimously endorsed by the medical profession as the anti-diphtheritic serum. Since it has come into use, the prognosis of the dreaded disease is much more favorable, the mortality being reduced nearly 50 per cent at every point.

The dose, as has been previously intimated, is very important in the successful use of the remedy. In all thera-

peutics we hear the adage, "It is better to give too little than too much," but in this instance it is the reverse—it is better to give too much than too little.

It is stated by good authority that 5,000 to 10,000 units of anti-diphtheritic serum may be given with less untoward effects than smaller doses. Many investigators claim that the use of the anti-diphtheritic serum in croupus laryngitis is attended with equally as good results as in diphtheria. I have not found it so in my limited experience. I have used serum in eight cases of diphtheria and three cases of membranous croup, with results as follows:

Case 1.—Aged 2½ years old; well grown male child. I was called in second or third day of the disease. The tonsils were covered with diphtheritic membrane, the posterior nares and uvula were also involved. The serum not being very well known at that time, the parents objected to its use at first; but on my fourth visit they consented—so a dose of 2,000 units was promptly injected. On the following day there was some improvement, the temperature had dropped about one degree; but on the second day I decided to use another dose of 1,500 units, after which the improvement was very satisfactory, and the patient was soon dismissed as cured.

Case 2.—Was a little girl about three years old; had been complaining for two or three days before I was sent for. On examining throat found tonsils covered with membrane, nasal mucus membrane considerably involved. 2,000 units of serum used; in twenty-four hours 1,500 units more were given. In forty-eight hours a third dose of 1,000 units was administered, after which there was marked improvement, and the child soon recovered.

Case 3.—Aged 2½ years; female; had been sick several days before I saw it; diagnosis diphtheria. I was not permitted to use antitoxin until two days later, when 2,000 units

were given. On the following day improvement was quite marked, and it was considered unnecessary to repeat the dose, and the case was dismissed in about one week. Two weeks later she died suddenly with paralysis.

Case 4.—Aged two years; was called late in the afternoon. Child had been up all day, but quite irritable. On examining the throat found some indications of diphtheria, but not marked. On the following morning diagnosis of diphtheria was made and 2,000 units of antitoxin were used with excellent results.

The other four cases were treated in the same way and yielded very nicely to the remedy, and no unpleasant after effects resulted in any of them.

I regret to say that I did not have success in my laryngeal cases.

Case 1.—Aged one year; male. I did not see the child until it had been sick for several days. When first called the child was gasping for breath and fearfully scianosed. Serum treatment, intubation and calomel fumigation were resorted to. After tube was first introduced there was decided relief for a few hours. In a short time, however, the tube became clogged. It was then removed, cleaned and re-introduced, but with no marked relief, and the child died one hour later.

Case 2.—Had been suffering from cold for several days. On finding the larynx involved, the ordinary treatment for laryngitis was given. On second day I found the child growing worse, so I gave a dose of 2,000 units anti-diphtheritic serum. There was some apparent improvement for a very short time, but soon grew worse. Two other doses of serum—1,500 and 1,000—were given at intervals of twenty-four hours with no results. As a last resort tracheaotomy was undertaken, but the child died before the operation was complete.

Case 3.—Aged 1½ years; had been somewhat ill for several days prior to my first visit, at which time it could not cry loud enough to be heard from one room to another, but its breathing was not exceedingly difficult—it could walk around in the room. The serum treatment was followed out as in the preceding case, except the doses were given at shorter intervals. Death occurred in twelve hours after the last dose was given. The treatment was begun rather late in all three of these cases, and in every particular they were unfavorable cases. The failure might have been on account of insufficient dose with too long intervals between. However, I am not discouraged with it, and shall continue the use of serum until I find something better for such cases.

I have used the anti-tuberculous serum, manufactured by P. D. & Co., in five cases, which proved very helpful in two of the cases—very little, if any, benefit in the other three cases.

In conclusion, I want to urge the laity and the profession to encourage the continuation of the researches of the subject with the hope that we may enjoy the benefits of a number of other serums as we have the anti-diphtheritic.

PHOTOTHERAPY.

BY T. M. COPPLE, M.D., WINSTON-SALEM, N. C.

In modern scientific medicine, light as a therapeutic agent occupies a commanding position.

Light represents along with air and water, a hygienic factor of the greatest importance. It is one of the elements without which there would be no life.

The botanist, in his field of labor, is only too familiar with the beneficial effects of the rays of light. Without it there would be no coloring matter (chlorophyl) in his plants, no healthy growth. What is true in the vegetable kingdom is equally true in the animal kingdom, and even more; it not only imparts health and life-giving influences, but it has the power of destroying germs.

Koch, perhaps, was one of the first to notice its destructive action on bacteria; he found in making cultures of the tubercle bacilli, that when exposed to sunlight they were destroyed.

Other investigators observed that the growth of the typhoid bacillus was inhibited and that the plague bacillus was killed by the same agency. All bacteriologists concur in the fact that bacteria in general do not thrive in sunlight.

In 1870, Esmarch exposed his surgical instruments to the sun's rays for the purpose of disinfecting them.

Not only does light inhibit and destroy bacterial growth when cultures are exposed to it directly, but it acts as a *destroyer* to bacteria imbedded in the *tissues* of the *body*, and this at once gives us a fundamental platform for the utilization of the rays of light as a therapeutic agent. Prof. Niels R. Finson, a Danish scientist, in 1893, demonstrated to the world the effects of the rays of light as a therapeutic agent, he discovered that the different rays of the solar spectrum—

which is composed of red, yellow, orange, green, blue, indigo and violet in the order named, and more particularly the invisible rays which lie *beyond* the violet field, and therefore known as the ultra-violet rays—had a different effect on different diseased conditions. He observed that in the treatment of smallpox those cases which were exposed to the white light sometimes resulted unfavorably, while those that were exposed to the red rays of light recovered, without suppuration and cicatrization.

The violet and ultra-violet or chemical rays of the arc and incandescent light possess greater therapeutical properties than that of the sun. It has the superior advantage, in that we can use it at any and all times and at any desired intensity; it also furnishes a greater abundance of violet and ultra-violet rays, which may be deficient in the sunlight under very many common atmospheric conditions of cold and moisture.

In 1880 Prof. Siemens discovered the peculiar effect of the chemical rays of the arc light on vegetation; he demonstrated that it favored the growth of plants, excited the formation of chlorophyl, hastened the ripening of fruits many weeks, and improved the size and flavor. It has been proven by other investigators that since it penetrates the skin and underlying tissues, illuminating them, and by its conversion into chemical and electrical irritating force, it modifies local and general metabolism, increasing the absorption of oxygen and eliminating carbon dioxide. By the use of these rays of light it has also been demonstrated that there is a decided increase in the number of red corpuscles of the blood, the effect being analygous to the increase of chlorophyl in plants under similar conditions; this means increase in haemoglobin, which in itself constitutes a means of improvement in many forms of disease.

These rays have a peculiar effect on the vaso-motor nerves,

causing a constriction of blood vessels in the tissues exposed, a marked anaemia is thus produced which has a surprising pain calming influence, thus the pains of pleurisy, cutaneous inflammation, contusions and swellings promptly disappear.

In one case under my observation a Pott's fracture of two days' duration with much swelling, pain and contusion, after thirty minutes' exposure to the Finsen light, the pain was relieved, swelling greatly reduced, permitting a more thorough examination without pain to the patient. The chemical rays having anaesthetic as well as analgaesic properties.

Prof. Minen reports making painless incisions and stitches after an exposure to these rays of light. On the account of these properties it is being used by dentists in reducing swellings and congestions about the face and rendering extraction of the teeth less painful.

The constriction of superficial blood vessels rapidly causes the absorption of infiltration about the edges of ulcers, and gives the impression that the ulcer is leveling itself, and becomes smaller during each exposure. The ulceration is covered with a very thin membrane and becomes smaller. The edges of the ulcer are soon covered with skin of normal color and elasticity, and as these edges come nearer and nearer complete restitution of tissue soon takes place. Cicatrization does not pass through those phases ordinarily observed, because there is no development of connective tissue. It goes without saying that in specific ulcerations the microbes which occasion them perish in the first place, and then only does restitution of the ulcerated tissue commence.

REPORT OF CASES.

Case No. 1.—Mr. P., aged 35; telegraph operator and depot agent. Ulcer just above ankle joint, size of fifty cent piece; one-half inch deep; duration three months; presented appearance of ordinary ulcer, pain, swelling, congestion, etc. About a year before had ulcer on same leg above present one,

which necessitated patient remaining in bed for four months before restitution took place. Began treatment with the chemical rays of light (Finsen light), August 22d, 1905. After the first few treatments, pain, swelling, etc., ceased, healthy granulations taking place, and discharged patient September 9th, 1905, cured, after having given thirteen treatments. No return to present date.

Case No. 2.—Mrs. D., aged 46, weight 240 pounds. Ulcer just above ankle joint 6 by $2\frac{1}{2}$ inches, $\frac{3}{4}$ inches deep; leg greatly swollen and painful. First appearance of ulcer twenty or twenty-five years ago. Had been healed one or more times, but never had healthy, normal appearance, and at no time was larger than a silver dollar. Present status of ulcer began two years ago. Began treatment December 18, 1905; applied dry, hot air, locally, for thirty minutes, reaching a maximum temperature of 250 degrees F., after which the chemical rays of light were used for thirty minutes; pain relieved and swelling greatly reduced after first treatment. The dry, hot air was a valuable adjunct in this case in reducing the swelling, relieving the pain and absorbing the connective tissue (of which there was a great deal, due to the long standing inflammatory condition). Daily treatments were given for one week, then three times a week. Treatment extended over a period of four months. Elastic stocking worn after ulcer healed.

Case No. 3.—Child five years of age. Eczema, covering very nearly the entire body, appeared when he was but two months old; intense itching, so much so that his hands had to be tied to prevent scratching himself and producing abrasions. Numerous prescriptions had been used, besides the whole armamentarium of patent preparations. Began treatment with the chemical rays of light January 16, 1905; after two treatments itching ceased, skin soon became smooth and normal in appearance, and discharged patient January 28,

1905, cured, after having given six treatments. No return to date.

Case No. 4.—Mrs. G., aged 30; lupus of face; several months duration; mother died of tuberculosis. Began treatment March 10, 1905; gave twenty treatments and discharged patient cured April 4, 1905. Lost sight of patient soon afterwards and don't know permanancy of results.

Case No. 5.—Mr. F., aged 45; laborer; gave history of having had syphilis some years before; arms and face covered with an eruption which appeared some months before. Itching very intense; had been treated for syphilis, and lotions applied to eruptions. Prescribed autisyphilitic treatment and gave three treatments with chemical rays; itching was relieved and skin soon became smooth and normal in appearance; 18 months have elapsed and no return.

Case No. 6.—Mr. H., aged 52; laborer; Septic Infection. Patient came to the sanitarium one evening stating that he had stuck a nail in his foot three days before, and that he was suffering great pain, so much so that he had to quit work and was unable to sleep at night. Upon examination the foot and leg were found to be swollen and pus in the wound. Applied dry hot air locally for 20 minutes, reaching a maximum temperature of 250 deg. F., after which the chemical rays of light were used for 20 minutes; pain was relieved and swelling reduced. Evacuated the pus (which was done painlessly), and dressed the wound; patient walked out perfectly easy and had no further trouble. I think the dry hot air was a valuable adjunct in the treatment of this case.

MALARIA AS SEEN IN GASTON COUNTY.

BY T. C. QUINCKEL, M.D., STANLY, N. C.

Malarial manifestations are very prevalent in some localities in Gaston County and in these localities only a minority of the population escape infection. While it is not very fatal, it incapacitates more adults during the summer months than any other disease that prevails in our county. It is manifested in the remittent and less often in the intermittent type, and very rarely if at all in the pernicious form. A true case of hemorrhagic fever is an unusual occurrence in Gaston County. During my six years of practice in a section where malaria is quite prevalent I have not encountered a single case of pernicious malaria. That it should be so uncommon in Gaston County has led me to believe that there is some factor in its etiology which we do not comprehend and which is unable to develop in our higher altitude or different soil as contrasted with the more alluvial and marshy regions of our State. That hemorrhagic fever is due to the same form of malarial plasmodium as the remittent and intermittent types, without any additional factor, I am unable to believe. If these are the true cause and there is nothing specific in its etiology, why should it be a very rare disease in Gaston County? As I have already stated, malaria in its less malignant form is our most common disease. Our people have hard chills, high fevers and profuse perspiration, which indicate that they are heavily loaded with malarial poison. We have some of those wise and stingy souls who either believe that they can cure themselves or wear out the disease, without seeking professional instruction, who go on for weeks and months without the germs or their poisons being eliminated from their blood. They show by their general appearance a saturated condi-

tion. We see evidences of great destruction of the haemoglobin of the blood and other evidences of the destructive work of malarial poisoning. We have undrained swamps and acres of marsh lands with quantities of decaying trees and vegetable matter in them that produce a host of mosquitoes; we have villages and thickly settled communities near these; every condition favoring the production of malaria in its most severe form, if there is no other factor in its etiology other than an unusually heavy invasion of the malarial organisms with which we are at the present familiar. There must be some specific factor in its causation. If this is not the case I do not see why we should not have malignant malaria in Gaston County in the same proportion as they do in the more alluvial portions of our State. Evidently there is something specific which has not been recognized in its causation, and whatever it may be, whether it is a distinct form or a special host for its transmission, or some peculiar climatic condition, it does not invade the higher altitudes of our Piedmont regions.

That there is no systematic effort being directed towards the prevention of malaria in this part of our State is to be deplored, and especially so because of the ease with which it could be curtailed. At least half of the breeding-places of the Anopheles could be destroyed by a small amount of work on the part of our land owners. We often find small ponds of stagnant water near the homes of our rural people that could be drained by only a small amount of work. Small pools near where the stock are watered, old cans, old buckets and tubs, are allowed to remain about the premises and are filled with water after each rain; various other small quantities of water which seem insignificant, but still large enough to send forth colony after colony of malaria-carrying mosquitoes. Oftentimes these small quantities of water are the only places where they are propagated near the homes

of our malarial patients; and with a little care all could be easily destroyed. The laity needs to be instructed regarding the importance of carefully supervising the destruction of these various breeding places of the inoculating agent, and I am encouraged to believe that they would do a great deal of effective work in the prevention of this very prevalent disease.

TREATMENT:

That quinine is a specific in the remittent type of malaria I have found to be correct, and 15 grains given in divided doses during the five hours just preceding the time for the expected chill is usually sufficient to prevent its occurrence. When we have prevented the chill and subsequent fever I direct a tonic of iron and arsenic. I also direct that 15 grains of quinine be taken every seventh day for four weeks, after which, if there has been no recurrence, I consider it safe to allow its discontinuance. In giving quinine I wish to emphasize the importance of having it in a form easily disintegrated, so that the stomach may have a fair chance to dissolve and absorb it. To give it in solution is the most certain, and when I am anxious to secure rapid and certain action I employ it, but under ordinary conditions the powder or freshly made pills will dissolve and be satisfactory. Stock pills and capsules where there is a deficiency of the secretions will often prove a disappointment.

The intermittent type does not yield so readily to quinine after the first week, hence the importance of pushing this remedy during this time.

BRONCHO-PNEUMONIA COMPLICATING MEASLES.

BY J. G. BUZBY, M.D., SPENCER, N. C.

In looking over the various medical journals that have come to my desk during the past year, articles upon the subject of Broncho-Pneumonia have been conspicuously absent. This has been particularly the case regarding Broncho-Pneumonia as a complication of measles. Why a disease of such frequency and high mortality should receive such little notice I am at a loss to understand. For this reason more than any other I bring the subject to the attention of this Society.

There is no disease so little dreaded by the laity, and on the whole, so carelessly handled by the physician, as measles. The great prevalence of the disease and its low mortality are partially responsible for this. Measles uncomplicated is rarely fatal, but with its manifold complications it is at once one of the most dangerous and obstinate diseases with which we have to deal. Of the many diseases complicating measles the most frequent, and unfortunately the most serious, is Broncho-Pneumonia. More especially is this true in early infancy. The air-passages are so constructed that they offer little resistance to the catarrhal conditions already present and in the severer cases a deep Bronchitis or a Broncho-Pneumonia is the inevitable result—usually the latter. And while it is not the object of this paper to enter into a discussion of the etiology and diagnosis of the disease, I wish to refer in passing to the great importance of a rigid and thorough physical examination of the respiratory organs in all cases of measles—more especially in children under 3 years of age. It is only in this way that a correct differential diagnosis can be made between a deep-seated Bronchitis

and Broncho-Pneumonia—a point which while it may not affect the treatment to any appreciable degree, does affect very materially the prognosis.

Broncho-Pneumonia is essentially a disease of infancy and following measles in children under 2 years of age its frequency is alarming. Several authorities, based on the reports of the larger children's hospitals, most of which are in the North, state that in early infancy Broncho-Pneumonia complicates measles in about 40 per cent. of cases. I doubt whether this is the case in the South, and more particularly in this section of the country. I have in the past year met with 16 cases of measles in children under 3 years of age, 5 of whom developed Broncho-Pneumonia, or about 30 per cent. Three of the 5 were under 1 year of age. In 2 of my cases the respiratory symptoms were so prominent that I came near mistaking a deep bronchitis for Broncho-Pneumonia—a point which it will be well to keep in mind.

The pulmonary complications may arise early or may be deferred until the second week of the disease. In poorly nourished, anaemic children, Broncho-Pneumonia may develop even before the eruption is visible.

Prognosis.—The prognosis is always grave, and in infancy dangerous to life. There is no such thing as a "touch" of Pneumonia following measles. In the larger hospitals the mortality varies from 50 to 80 per cent., in private practice from 20 to 40 per cent. Two of my cases died—a mortality of 40 per cent.

The prognosis in any given case would depend largely upon the age and previous condition of the patient. Poorly nourished infants succumb very readily to the disease. Rickets and deformities of the chest would materially affect the prognosis. Thin, wiry infants withstand the disease better than fat, bulky ones.

The degree of prostration, the character and frequency of the respiration, the height and course of the temperature,

the presence or absence of nervous symptoms, the extent of lung involvement as determined by careful physical examination of the chest, and most important of all, the condition of the digestive organs, should be carefully studied before arriving at a prognosis. As long as the function of the digestive organs remains good, no case of Broncho-Pneumonia, however desperate it may seem, should be despaired of for even in the most apparently hopeless cases resolution may take place and recovery follow.

Treatment—Prophylaxis.—Too much stress can not be laid upon preventive measures in this disease. Herein lies the great weight of responsibility. In every case of measles in young children the catarrhal conditions present should receive paramount attention. Every accompanying bronchitis should be carefully watched and every means possible employed to prevent the process from extending to the smaller tubes. To this end strict attention should be given to the condition of the sick room, which should be well ventilated, but free from drafts, the temperature not being allowed to rise above 68 or 70 degrees, the air being kept moist if possible by an open fire. In the prevention of pulmonary complications nothing is so important as an abundant supply of oxygen. It should be the duty of every physician to advise mothers against the too frequent custom of sweltering children with measles in order, as they think, to bring out the rash early—a thing that can do no possible good, and in my judgment the cause in a large percentage of cases of pulmonary involvement.

Changing from room to room, and from the crib to the nurse's arms is very beneficial. The chest should be well protected, rubbed frequently with camphorated or olive oil, or counter irritation employed.

During convalescence from measles great care should be exercised against too early exposure. The child should be

given liberal doses of cod liver oil, and even in the most favorable weather should not be allowed to leave the house under a week or ten days from the time the eruption has disappeared.

Careful attention to these details will in a large number of cases prevent pulmonary complications.

Treatment.—In treating Broncho-Pneumonia it should be borne in mind, as has been previously mentioned, that the disease may come on very early in the course of measles, even before the eruption is manifest. It is a matter of the greatest importance that a diagnosis be made early, and as soon as the co-existence of Broncho-Pneumonia is established the gravity of the disease should be promptly recognized and the closest attention paid to every detail of treatment. The condition of the sick room as to ventilation, temperature and the suitable moisture of the air must be even more carefully watched. The child's clothing and the bed covering must be adapted to the season of the year, the weather and the patient's habits and strength. Even slight indiscretion in the points just mentioned may greatly aggravate the disease and render it less amenable to treatment.

Before beginning treatment directed to the respiratory organs every precaution should be taken that the digestive tract be gotten in the best possible condition, remembering that when the crisis comes the outcome of the case may depend upon the proper functioning of these organs. Not only the diet, but the entire medication must, therefore, be rendered subordinate to the condition of the digestive tract.

Local Treatment.—The local treatment consists in the application of an oiled-silk jacket and the employment of counter irritation over the chest. A jacket of this material not only keeps the chest at a uniform temperature and produces a moderate degree of counter irritation, but renders the patient much more comfortable. The old-fashioned poultices so much in vogue once are now rarely employed.

The advantages of the oiled-silk jacket are very obvious. It allows free access to the lungs for physical examination, does not require frequent changing, renders easy the application of counter irritants, and what is most valuable of all causes little or no pressure upon the chest. The oiled-silk jacket is contraindicated in cases attended by very high temperature.

The counter irritants usually employed are mustard, turpentine liniment, camphorated oil, and Tr. Iodine. In infants and young children mustard has given me the best results used in the form of the mustard paste. For a child of one year one part mustard to five or six of ordinary wheat flour is the right proportion. This should be left on from 5 to 15 minutes each time, and should be changed every 3 hours. The entire chest should be covered, and after each application the skin should be dusted with powder.

Expectorants.—The value of expectorants in infants is very doubtful. In older children they are often of great service. In the former, where expectoration is absent and the secretion finds its way into the alimentary canal frequently setting up no little disturbance, the situation is best met by minute doses of calomel.

Where expectorants are deemed expedient the best preparations are the chloride and carbonate of ammonia, Syr. Squills, Syr. Senega, and creosote, and where the temperature is very high may be advantageously combined with the liq. ammonia acetat. Cough mixtures containing opiates are usually harmful and should not be used except where the cough is obstinate and painful.

Emetics.—This class of remedies should be avoided wherever possible, except, perhaps, in those cases where the secretion is abundant and viscid and interferes with the respiration. Of these the Syr. Ipecac meets the indications best.

Inhalations.—For the stimulation of bronchial secretion,

relieving an incessant and obstinate cough, and promoting the general comfort of the patient nothing is so beneficial as steam inhalations. Early in the disease lime-water vapor or Tr. Benzoin Co. should be used, and later creosote, oil eucalyptus or turpentine. Of these creosote deserves first place.

Respiratory Stimulants.—Respiratory stimulants are generally needed early in the disease, especially should the Broncho-Pneumonia come on late in the course of measles after the patient's strength has been partially exhausted. The mustard paste already referred to aids greatly in relieving the respiratory embarrassment. Among the drugs at hand, but which as a rule are disappointing, strychnine and atropia are the most valuable. Gr. 1-200 of strychnine and Gr. 1-400 of atropia should be given a child of 1 year, and repeated as often as the respiratory symptoms demand. Where respiratory failure is imminent a hot mustard bath accompanied by vigorous rubbing is timely and will sometimes relieve the situation where all other means have failed.

Cardiac Stimulants.—In Broncho-Pneumonia following measles it is imperative that cardiac stimulants be begun early, more so than if the disease be primary. The question of stimulants in the various pneumonias has been the subject of much study and it is not my purpose to discuss the merits and demerits of the various drugs commonly used. In the pneumonia under consideration strychnine and alcohol have given me the most satisfactory results. For a child of 1 year, Gr. 1-300 of strychnine may be given as often as every three hours. One-half to one ounce whiskey or brandy may be given in 24 hours, always diluted with six to eight parts water. At the critical stage of the disease twice this amount may be given. Some authorities claim much benefit from adrenalin, digitalis, caffein, and ammonia, but as a routine practice they are greatly inferior to strychnine and alcohol.

In attacks of cardiac failure with engorgement of the pulmonary vessels nitroglycerine is indicated, and sometimes apparently hopeless cases are tided through a critical period by its timely use. Gr. 1-500 nitroglycerine may be given every hour to a child of 1 year.

Antipyretics.—The fever in Broncho-Pneumonia does not demand special treatment nearly so often as the other forms of pneumonia. The normal range of the temperature is from 102 to 104 degrees, and so long as the fever remains within this limit antipyretic measures are not, as a rule, indicated. As to the coal-tars, we are becoming a little more conservative, and where hyperpyrexia is present and the nervous symptoms pronounced, small doses of phenacetine or antipyrine may be cautiously given. However, the routine use of these drugs is to be carefully avoided. It has long been an established fact that cold water is the best and safest and most convenient antipyretic we can employ. Except in extreme hyperpyrexia is it necessary to resort to the tub bath in the pneumonia of infancy. Cold sponging and the use of the ice cap are usually sufficient. Ice poultices to the chest have not met with very favorable consideration here as in the pneumonia of adults. Quinine has been much lauded as an antipyretic, and even by some as a specific. This is certainly not the case in Broncho-Pneumonia.

For the relief of the *nervous system* tepid sponging, and where the cough is extremely troublesome and not relieved by inhalations, small doses of heroin or codein may be given.

As convalescence becomes established remedies directed to the maintenance of the general health are strongly indicated. The tonics best suited to this condition are cod liver oil, arsenic, and Syr. Iron. Wherever possible a change of climate should be advised for a short period and the case carefully watched until the close. In this way we may be often gratified by witnessing a complete restoration to health.

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In discussing a subject of so great scope I could not, in the short time allotted me, do more than touch upon the salient points in the prognosis and treatment of this important disease. It has not been my purpose to present anything new upon the subject of Broncho-Pneumonia, but rather to call attention to the great frequency with which it occurs in the course of measles, the dangers attendant upon it, and the possibility of its prevention. Should pulmonary complications arise know it early—they demand prompt attention. And in conclusion I would urge against any routine or fixed plan of treatment. The course of the disease and the indications to be met vary markedly in each particular case. In no condition is a thorough and ready knowledge of therapeutics more necessary. It is only by the most careful study of the case, watching closely for the danger signals, and applying promptly and persistently the proper remedies that we can hope for a lower mortality in the pneumonia of infancy.

NOTES ON PUERPERAL ECLAMPSIA.

BY RAYMOND POLLOCK, M.D., DOVER, N. C.

In presenting this paper I fully realize that I have chosen a subject whose very depth stands as to yet unsounded. In expressing my opinion it will be based upon the observation of the fourteen cases that I have been so fortunate as to have attended, as well as from the views of the different authorities that I have consulted. My practice being in a mill town and surrounding country, the inhabitants of which are of very moderate means indeed, has led me to some homes that were barely more than hovels, and the very thought of an operation, much less the work itself, was filled with the horrors of sepsis. And had I thought that any one of you were watching me in my procedures I am sure that I would have become so much embarrassed as to have had to have discontinued. However, to have had you placed in my stead, with time fast speeding on its way, and with it the cycle of another one of those dreadful and heart-rending convulsions approaching, possibly the old adage, that "necessity is the mother of invention" would have presented itself and you, too, would have accepted a course that was not one of election, but rather perforce. How far back will it take some of you when you recall having had either a surgical or obstetrical case five or ten miles in the country, whom you were hastily summoned to see, to find it in a small, scantily furnished, poorly ventilated, dirty room, with no means of preparation for yourself or instruments? Did you go back to your office to sterilize your instruments, or did you scald out the wash-pan, prepare your hands, then wrap the instruments in one or more towels, then put them in a dish-pan, if indeed you were lucky enough to find one, or did you have to lay them to one side and sterilize by having some

one to slowly pour scalding water over them until they were ready for use? If you have done the latter I shall not need to beg for leniency, and while faulty in the eyes of those that can only see hope for recovery in the modern maternities of to-day, let me state that in the pursuance of such work I have lowered the mortality rate as given by Winckel in not having lost one per cent.

Eclampsia is an acute disease occurring in women in pregnancy, in labor, or in childbed, often sudden in onset, rapid in progress and characterized by convulsions, loss of sensation and consciousness, ending in coma (Bailly).

Etiology.—In mentioning the predisposing causes of this dreadful malady, it is to be remembered that there is a universal liability to Eclampsia in all pregnant women, regardless of age or as to whether it is the first or subsequent pregnancies. The primipera, and especially the one who has passed the 30th year, seems more prone than the sister of tenderer age.

Pluriparity.—Plural pregnancies seem far more liable than when pregnant with a single foetus.

Heredity.—Elliott and Lohlein have both recorded cases in which the mother and three daughters were similarly attacked.

Season.—It is most often seen in summer, fall and spring-time.

Statue.—A short, stout, thick set form of strong muscular fiber, short neck, seems far more liable than the more delicately built; however, the latter is by no means exempt.

Neurotic Temperament.—Contracted Pelvis with its secondary effects from pressure and prolonged labor.

Luxurious Living.—As gouty or of rheumatic tendency.

And Lastly.—The overworked, poorly fed, sallow complected, in which you would naturally expect to find defective matabolism and faulty action of the emunctories. As

to the essential cause I shall accept the theory of Rievier's that it is an auto-intoxication due to some unknown toxine, which may be the end product of destructive matabolism or the intermediate products that have gained the circulation because of failure on the part of some organ or organs, probably the liver, thyroid gland, or kidneys, to convert them into a useful or harmless body.

Admitting, then, that we have the required toxine to act through the agency of the nervous system, I shall not go into detail or present the theories of Traube-Rosenstein, Macdonald, Osthoff and others, who dispute the condition of the brain, or more than mention the experiments of Lange, who found that when a piece of thyroid gland just sufficient to continue life in the non-pregnant animal was allowed to remain in a pregnant animal, an insiduous kidney disease develops—one that may result in convulsions, and coma, which are distinct from the convulsions of tetany and are not relieved by thyroidin—for they all agree in the one point that anemia of the centers plays the important role in the production of convulsions and has led them to divide the convulsions into two classes, viz:

1st. Those of centric irritation due to the toxine in the blood acting directly on the centers producing congestion, resulting in oedema, followed by anemia. The suddenness of onset, frequency and severity of the paroxysms, the depth of the coma being in direct proportion to the venocity of the blood.

2d. Those from periphral or reflex causes, as protracted labor due to contracted pelvis, excessive pain, distended bladder, abnormal position or movements of the foetus. Lusk says that special source of irritation is derived from the uterine contractions, and the observation of Barxton Hicks show that this irritation is not confined to the time of labor, but occurs during the entire duration of pregnancy and continues throughout the retrograde changes of childbed period.

Mrs. X., white; age 31; multiperae; short, thick set form, sallow complexion, of nervous temperament; history of eclamptic attacks in the four previous pregnancies. I attended her the latter part of the second month in the fifth pregnancy. She complained of pain which she described as coming from the back part of the uterus; seemed to be tearing, followed by a pressure down and backward; headache which she described as indescribable, first general, with sensation of pressure on the brain located frontly; temperature of 102 O. F.; pulse rapid; blindness, flashes of light; urine scant, highly colored, loaded with albumen. She passed into violent convulsions which lasted 24 hours, only as controlled by inhalations of chloroform, hypodermics, morphia, chloral, and bromide per rectum. She had a repetition of previous attack in the fourth month, when I chloroformed dilated os and removed embryo and its appendages. Recovery was rapid and uneventful. A year later I was called to see her in the second month of her sixth pregnancy; found her complaining as in previous attacks; flowing slightly; had light attack; aborted and was relieved. I advised laparotomy, when it was found that the uterus and its appendages were adherent to the surrounding tissues.

Pathology.—Autopsies reveal but little evidence of the causes of Eclampsia. In the brain you may not find any changes whatever. There may be a turgidity of the vessels, or an effusion of serum on the surface, at the base, and in the ventricles.

Kidneys.—You may find changes characteristic of all forms of Nephritis. Schauta, in 28 cases of fatal Eclampsia, found 9 anemic, 16 with Bright's Disease, while in 3 the organs were healthy.

Liver.—Schmorl reports a series of seventeen cases, in every one of which serious changes in the liver parenchyma was found post-mortem, and consisted of necrotic aerees of hemorrhagic or anemic character. Microscopically, the liver

presented somewhat the appearance of acute yellow atrophy. Stump suggests that the liver disturbances are of secondary nature.

Diagnosis.—The symptoms of Eclampsia are so pronounced that once the disease has been seen there is very little likelihood of its being mistaken. The diseases with which it is most liable to be confused are hysteria and epilepsy. In *hysteria* you have a previous history of nervous or hysterical attacks; consciousness is only partially lost; tongue rarely bitten; no bloody, frothy saliva escaping from the mouth; the *face* muscles are rarely involved; the muscles of the back is the principal seat of the spasms, the trunk being drawn back into an arch. The seizures last much longer, ending in complete recovery of consciousness, with sobbing, crying and screaming. Recurrence of attacks are not frequent.

Epilepsy.—Previous history of epileptic seizures; absence of the epileptic cry; breathing is sibilant instead of stertorous, and the muscles retaining their tone instead of becoming completely relaxed as in Eclampsia.

Prognosis.—The contrast in the maternal mortality rate with that of Hunter, Lowder, and other teachers who were accustomed to state in their lectures that more than half of their cases died—Jacobs, who said the cases were almost always fatal, scarcely any example being known of patients having recovered—must be a source of much gratification to the obstertricians of to-day. While every case should be looked upon as serious, with the immediate indications for treatment kept clearly in view, and we act promptly, I can see no reason for a high death rate. We may have been called in late, and found the paroxysms frequent, severe, coma deep and prolonged, heart labored, pulse rapid and weak, respiration shallow, temperature high, jaundiced, urine very scanty, highly colored, loaded with albumen of anuria. If the patient does not respond to stimulation, then indeed has the prognosis assumed its gravest character.

Lohlein considers the mortality rate 19½ per cent.
Davis considers the mortality rate 15 per cent.
Winckel considers the mortality rate 7-10 per cent.

Fatality of the foetus greatly exceeds that of the mother, and depends in part upon the promptness in which labor is terminated. *Vinay* thinks that death is due to the toxine being transmitted from the blood of the mother to that of the foetus and cites instances of children being born with rigidity of the muscles. Davis substantiates this in recording a case in which the infant was delivered by Caesarean Sectin. It was given every advantage, having a wet nurse and skilled care. It died in two weeks from toxemia undoubtedly the result of the mother's condition before birth. Cazeaux records several examples in which the convulsions attack the foetus in-utero. Just how he observes as much I am unable to determine. Again it is held by some that death of the foetus is due to asphyxia, caused by the accumulation of carbonic acid in the blood. Lusk says that fully 50 per cent. perish from this cause. Parvin gives the mortality rate from 26 to 70 per cent. I shall have to admit of a loss of 60 per cent.

Symptoms.—Oft times eclampsia is ushered in without precursory symptoms. However, it is generally the case that the patient is suffering with oedema of the lower limbs, genitalia, hands, and face, and for several days previous to the onset they complain of headache, which is usually located in the front and on the sides, seldom in the occiput, slight at first, becomes constant and intense with a sensation of pressure on the brain. *Dizziness* and *vertigo,* and the patient is unable to walk straight; blindness, can not see objects plainly, with flashes of light. She may become irritable or despondent. There is a confusion of mind, and saying and doing things of which she is unconscious.

Mrs. D. Spent the evening with her mother. She returned home alone, assisted in the preparation of the sup-

per; she ate very lightly; was taken violently ill just afterwards. Upon her recovery to consciousness three days later she remembered nothing of what had transpired while at her mother's, coming home, or assisting in the preparation and eating of supper.

These symptoms may progress successively, or it may burst forth in all its violence without any warning of the oncoming attack, when the eyes become set or fixed, patient lies perfectly motionless; then there is slight tremor or jerking of the whole body; the eyes move up and down rapidly, finally resting under the half closed upper lids with pupils dilated. The eyelids open and close rapidly, remaining partially closed, showing only the whites of the eyes. The angles of the mouth are drawn and fixed in a convulsive grin, the jaws become clinched, the head is drawn back, or to the shoulder, and as the spasms rapidly pass to the muscles of the limbs and trunk she will rest on the back of her head and heels, or be turned over to one side; the arms are rigid and extended, forcibly carried across the chest, with thumbs fixed on palms; fingers close over them; legs extended or flexed at the knee; trunk rigid and arched; face first pale, becomes flushed and greatly cyanosed. The diaphram and muscles of the chest are involved. The veins of the neck become conjested and distended; respiration is arrested; the heart, first fast and excited, becomes intermittent and weak; the body is bathed in cold sweat. There may be involuntary micturition or defecation. This stage only lasts a few seconds and again passes into the *Clonic spasms,* first observed in the muscles of the face, which twitch violently; the lower jaw opens and closes rapidly and with force, injuring the protruding tongue unless protected. Breathing is irregular and hissing, as the muscles of the chest and larynx are involved. Bloody, frothy saliva is blowed out with each forced expiration. The limbs, rigid and fixed, begin to jerk; the whole muscular system is thrown into rapidly recurring con-

vulsive jerkings, or spasms, which gradually subside. The body relaxes, the eyelids close, mouth drops open, from which escapes blood-tinged and frothy mucous; breathing becomes deep and stertorous; she passes into a state of coma, the depth of which is in proportion to the frequency and severity of the seizures. The attack usually lasts from one to five minutes. Tarnier records one lasting twenty minutes. Dupal records one case that had 160 convulsions. Ahlfeld had a patient to recover that had 81 convulsions. Usually there is from four to twenty. During the attack there is complete loss of sensation and consciousness.

If the paroxysm be light she may regain consciousness during the interval, though remaining somewhat dazed and somnolent; if severe and frequent, coma deep, she does not recover consciousness at all, but passes from one to another perfectly oblivious of her conditions and surroundings. Attacks usually terminate within 36 hours; coming to their right mind, they rapidly progress to recovery, or they may become maniacal, lasting for weeks. Death results from asphyxia due to prolonged tonic convulsions or from the combined effects of asphyxia and exhaustion.

Treatment.—It should prove our duty to examine the urine semi-monthly, or oftener, in the latter months of pregnancy, and should we find persistent albuminuria, we should institute a *porphylactic* or *preventive* treatment at once. Restrict her to milk diet. Give dieuretics and plenty of pure, natural alkaline, or lithiated water. Laxative or purgative, to keep the bowels freely moved. Keep skin active by frequent hot baths; give the tincture of the per chloride of iron in full doses three times a day for its tonic and dieuretic effect.

When the attack comes on we should see that the tongue is protected by placing a handkerchief or napkin between the teeth, and not by the use of a spoon handle, piece of wood, or anything that is hard, as was once practiced; have the

clothes loosened; prevent the relatives and friends from grasping and forcibly restraining her movements; see that she does not fall from the bed or otherwise injure herself. As the attack passes off turn the head to one side; keep the mouth and pharyngeal cavity as free as possible of the bloody, frothy mucous; prevent the tongue from falling backward while in the comatose state. Secure copious evacuation of the bowels by the administration of a brisk cathartic; give a high, hot, stimulating saline enema through a rectal tube or large catheter. Catheterize. Hot bath at a temperature of 104 O. F., which is gradually increased to 112 O. F.; the patient is then removed, placed between warm blankets and made to perspire freely.

Chloroform should be used to prevent and control the paroxysms, but not carried to deep or prolonged anaesthesia.

Morphia hypodermically in doses from a quarter to one grain as needed.

Chloral and bromide of potassium in 30-grain doses each, per rectum, every two to four hours as needed.

For their depressing effects, as well as a lack of satisfactory results in their use, I shall only mention the names of Veratrum, Pilocarpin and Caffein, and not commend them for your consideration.

Venesection should be employed for the relief of vascular tension, which diminishes the irritation of the vasomotor and convulsive centers; its effect is most marked and in my experience as transitory. I think the bleeding should be copious, and that the transfusion of normal saline solution should be practiced at once, that it may induce dieuresis, replace the heated toxic blood, and temporarily diminish further intoxication of the centers by depletion of serum from the tissues, which follows to equalize pressure and compensate for the loss.

Eclampsia occurring during the latter months of pregnancy should not be interfered with or terminated, as it is

not infrequently the case that she will recover and go to time, a living child being born. However, to find the attack intractable, the general system failing, a threatening headache, with evidence of the child perishing, urine scanty, highly colored, albuminuric, it is useless to allow pregnancy to continue, and I have observed that it is not only detrimental to the future health of the mother, but invariably the child is born dead or dies within a few hours.

Attacks marking the onset of labor should be watched long enough to observe its progress; if very rapid indeed, use chloroform to control convulsions and leave delivery to the forces of nature. If not rapid, then divide the cervix by four incisions, or dilate the os by the use of Barnes' bags, Goodell's or other uterine dilaters; or better still by the use of the index fingers and delivery at once, unless the foetus be in transverse position. I do not believe in version, as it is a much slower process of delivery.

Eclampsia occurring subsequent to parturition can best be treated by active purgation, transfusion or normal saline solution, moderate depletion, frequent catheterization, hot packs or baths, hypodermics of morphia, bromide and chloral per rectum. I do not care for the use of chloroform only in the first few convulsions or to control the patient while in the bath or pack.

Caesarean section is an operation which should only be considered for the preservation of maternal life or to rescue a perishing foetus from a dying or dead mother.

Eclampsia has been, is, and ever will be a fascinating study to the conscientious physician, in which hope and fear are evenly blended; and in each and every case promptitude and patience will equally demand consideration for the saving of human life.

MITRAL INSUFFICIENCY—SYMPTOMS AND TREATMENT.

BY O. L. RAY, M.D., RALEIGH, N. C.

Mr. President and Members of the North Carolina Medical Society:

In attempting to find a subject for a paper to present to you it occurred to me that while I had nothing original to offer, we might study the subject of my brief paper (Mitral Insufficiency; Its Symptoms and Treatment), with interest and perhaps profit, as it has fallen to my lot during my short professional experience (of 7 years) to have under my care several patients suffering from it, the most common of all the Cardiac Insufficiencies.

Before entering upon a discussion of the subject it might not be out of place to consider the morbid physiology of the heart in this trouble.

In Mitral Insufficiency the blood flows in two directions during systole of left ventricle. The greater amount escapes into aorta, as in health. The smaller quantity regurgitates through the imperfectly guarded left auriculo-ventricular orifice into left auricle during diastole, and this with the blood received from pulmonary veins causes distension of auricle, and if the regurgitation progresses gradually hypertrophy results, which enables the auricle during systole to completely empty itself, and delivers an over amount of blood to left ventricle, and this causes dilatation, and to expel this extra amount of blood the ventricle must hypertrophy (to furnish needed amount of blood to the general system and to make up for lost blood due to regurgitation into auricle). The engorgement of left auricle renders it difficult for the pulmonary veins to effectually empty themselves into left auricle, and therefore the lungs become engorged and here the right ventricle finds difficulty in pumping blood through the lungs and demands greater force on

part of right ventricle, and hypertrophy results and finally dilatation takes place from over work and produces insufficiency of the tricuspid valves. The right auricle undergoes dilatation and hypertrophy, but the hypertrophied auricle fails to empty itself and we have engorgement of venous circulation.

Symptoms.—In good many cases the disease in its beginning has no symptoms for years after lesion is established, which causes patient to seek medical advice, owing to compensation keeping pace with the development of the disease. It is upon extra exertion that symptoms of cardiac embarrassment ensues, such as hysponea and palpitation, and these symptoms are usually attributed to some digestive disturbance by patient.

If no disease or hard work causes weakening of the cardiac muscles the patient will pass with comfort to old age, when symptoms of cardiac failure will develop, due to changes in cardiac muscles incident to old age; also the heart's work is increased, as it takes a greater amount of force to send the blood to all parts of the body.

Usually about the first symptoms the patient complains of is shortness of breath on slightest exertion, usually accompanied by a "fluttering" or palpitation of the heart, and indigestion.

Pain and tenderness over the heart and an oppressed feeling of the chest. Dizziness on stooping over and rising suddenly, and often pain extending down left arm. Patient is unable to rest lying down owing to the engorged lungs; dyspenea becomes permanent due to failing compensation. Cyanosis of lips and fingers due to impaired capillary circulation. Repeated attacks of bronchitis from congestion of the lungs are experienced, and in coughing the sputum is sometimes blood-stained and the dysponea becomes worse. In advanced cases, where we have congestion of the stomach and kidneys, we have a disturbance of these organs, as indi-

gestion, gastritis, albuminuria and these complications or secondary affected organs have symptoms of their own, and these with the already existing trouble, sometimes make it hard to tell which is the primary trouble unless we have had the patient constantly under our care.

The urine upon examination is scanty and highly colored and of high sp. gr., and we find large quantities of albumen. The liver becomes congested, enlarged and tender upon pressure, and when the tricuspid valves give way we have a pulsating liver and jugular pulse and this is pathognomonic of tricuspid insufficiency. General effusion into the serous and plural cavities result.

Physical Signs—Inspection.—We will find the apex beat out of normal position, which is one and one-half inches below and within the nipple line and between the fifth and sixth ribs. The beat is more forcible and is displaced to the left. The position of apex beat depends upon the amount of dilatation of the ventricles. Sometimes we find impulse in the second interspace to the left.

Palpitation simply verifies inspection and determines more accurately the apex beat.

The pulse at first is unaffected when compensation is complete although the volume is lacking, but later when compensation fails, it becomes frequent, irregular, weak and intermits.

Percussion.—The area of dullness is greatly enlarged from dilatation of the heart cavities.

The enlargement is usually transverse or lateral and may extend to right edge of sternum due to dilatation of right ventricle and as far as left of nipple from dilatation and hypertrophy of left ventricle.

Auscultation.—You find a systolic murmur which is soft and loud in the mitral area, which is located at the apex beat, and the murmur is conducted into left axilla under the angle of the left scapula, and if very loud may be heard in any

part of the chest, but best at apex beat (this being a very distinctive feature of the disease).

As the right side of the heart becomes affected, we have accentuation of the second sound of the heart, which is heard in the second interspace to the left of the sternum; when the tricuspid valves fail we have a systolic murmur in the tricuspid area, which is heard best at the fifth costal cartilage to right of sternum.

Treatment.—The first treatment we should consider in this disease, as in all diseases, is the preventative treatment, and this should be borne in mind when treating a patient with a disease where the heart is likely to become affected; secondarily, such diseases as acute rheumatism, diphtheria, Bright's disease and acute infectious fevers. We should be on our guard so that we may be able to cope with the condition if it should present itself and the treatment should depend upon the severity of the involvement of the heart.

The giving of heart tonics to patients in this trouble before signs of cardiac failure present themselves often does harm instead of good because the natural compensation may be disturbed and the patient will show symptoms of cardiac failure for the first time, neither does the presence of valvular lesion indicate direct treatment of the heart until it begins to show symptoms of failure; then we can resort to cardiac tonics.

During the quiescent period we should look after the patient's general health and see that every organ is performing its function properly.

The medicinal treatment in the beginning of failure of compensation and before should be iron in some form and in my experience the petonate of iron is the best form in which to administer it, as it takes additional work off the digestive organs as it is ready for absorption and assimilation when taken into the stomach.

By giving iron, the oxygen carrying agent to the blood

and tissues, we overcome the imperfect oxygenation of the blood to a certain extent, caused by impaired pulmonary circulation, and we have good, rich blood reaching the heart muscles through the coronary arteries, and this combined with prolonged rest brings about a permanent compensation in some cases where cardiac stimulants fail.

Rest is a very important factor when compensation is failing, both of body and mind. Although the heart is an organ which can not have complete rest at any time, its work can be diminished from 15 to 20 per cent. by a prolonged rest in bed from six to eight weeks.

Shocks of all kinds are to be avoided. Exercise in the beginning before symptoms of cardiac failure appear, should be moderate and never excessive, and taken in open air.

Sleeping apartments should be well ventilated, some preferring the patient to sleep out of doors. Where cardiac failure is great enough to prevent out door exercise, then massage, regulated according to strength of patient, is good.

Closely related to the relief of all unnecessary work of the heart is the management of the diet. It should be light and nutritious and mostly of proteids, and of such a nature as not to cause fermentation in stomach or intestines, as this will aggravate the trouble. Should any disturbance of the stomach or intestines arise digestants should be given to aid the stomach while looking after the primary trouble. Meals should be given often and in small quantities. The selection of the ideal dietary in each individual case must be the result of an intimate acquaintance with the patient's digested ability and tastes and a thorough knowledge of the nutritive value of foodstuffs. Substances which are bulky and of small nutritive value should be cut out.

In advanced cases where there is an accumulation of dropsical effusion the diet should be entirely liquid and reduced to small amount as possible.

When compensation has failed the patient should be

warned of his condition, so he may avoid any severe effort of any kind, as this may cause sudden death, or if not, do irreparable damage.

Digitalis is the best cardiac stimulant, its action upon the heart increases the force of the systole and by prolonging the diastole it improves the nutrition of the cardiac muscles.

While much benefit may be derived from the use of this drug, we should bear in mind the fact that it should not be administered in too large doses, as is often the case, some giving 10 to 20 minims three times a day, with the result that in a few days the heart is over stimulated and, instead of doing good, it may do serious harm, and if persisted in for a considerable length of time, may result in sudden death of patient.

Digitalis in over doses produces a marked irregularity of force in the heart. The urine is decreased instead of increased, as it should be.

It has been my experience that small doses combined with the "rest cure" give satisfactory results.

The only conditions in which I use large doses are when patient's condition demands immediate stimulation, or when from some cause the heart does not respond to smaller doses.

When patient's condition is so critical that immediate stimulation is necessary, it is better to give more rapidly acting stimulants until digitalis has time to act, but while we have in mind the fact that digitalis is a drug that produces its effects slowly, we should also remember its effects are maintained for some time after its use has been stopped. I have always found it satisfactory after having given it in large doses, to decrease the quantity to about one-half or less than the original dose, in a few days.

The infusion of digitalis has been given by some where dropsy is present, but as it is very apt to disorder the stomach, I think that it aggravates the existing trouble, thereby causing more harm than the slight increase in diuretic power does good.

Where the arterial tension is higher than normal nitroglycerine should be given, as this reduces the tension; it is often given with digitalis to counteract the arterial effect of that drug.

Stropanthus possesses the advantage of not raising the arterial pressure, as does digitalis, though a much less powerful stimulant.

Where there is a great amount of effusion in the pleural and abdominal cavities and digitalis fails to remove this effectually, then one of the salines in concentrated solution should be given every morning.

Periodical doses of calomel or bluemass does good and especially where the liver is congested.

Usually digitalis acts better after the administration of calomel or bluemass.

I have also used Apocynum Cannabinum effectually in some cases, but this in large doses is apt to cause vomiting and diarrhœa.

A combination of powdered squills, digitalis and calomel, equal parts, is good to remove the effusion, but an occasional dose of saline is necessary to clear the calomel away. In cases where this fails to relieve, tapping of the pleural and abdominal cavities are resorted to, also puncture of the leg. Bleeding has been known to give relief in desperate cases, where there is distension of the right side of the heart with pulmonary congestion.

Insomnia that accompanies this disease is usually relieved by the use of codine; if this fails then give morphine, which, however, can not be given hyperdermically if dropsy is present. These drugs are also used to relieve the dysponea, and in severe cases the administration of oxygen has proven beneficial for the dysponea.

The palpitation and irregularity of the heart is often relieved by combining belladonna with digitalis, sometimes a belladonna plaster over the heart gives relief.

THE PHYSICIAN AND HIS RELATION TO TUBERCULOSIS AS A SOCIAL PROBLEM.

BY T. A. MANN, M.D., DURHAM, N. C.

I shall not attempt to give any new ideas regarding the physician's relation to this most important problem which rests for its solution on the co-operation of the public, the profession and the health authorities. I shall speak for the most part of the physician's relation to this problem, with a strict understanding that without the work of the layman in adapting himself to the plans and principles laid down by the medical profession, the physician's work will be much hampered. Dr. Anders, of Philadelphia, in speaking along this line, says, that "although the anti-tuberculosis fight began on a medical basis, naturally victory will be a very doubtful and at the best very remote result without the larger work of the layman. This is truly a fundamental principle of the strategy indeed, and there must be adaptation on the part of the general public as well as the medical profession to a rational knowledge of and habitual attention to the means of prevention and limitation." "Physicians," he says, "have drawn and laid down the plans and specifications for the bridge that is to carry the populace safely over the dark gulley of disease, despair and death, but the building must be done and the bridge used in the main by those who would be saved thereby."

In working out a solution to this problem, however, the physician has a sacred duty to perform. Dr. Osler well says that "in the warfare against tuberculosis the man behind the gun is the general practitioner; the battle can not be won unless he takes an active, aggressive and accurate part." The time has not yet come when the physician is employed as prophylactiker. Let us hope that this time is not far in the future, for none can deny that it is better to save lives

by the prevention of disease than by much drugging after its onset. Especially is this so in tuberculosis, for success in combating it depends wholly on preventive measures and the earliest possible diagnosis when it has set in.

Dr. S. A. Knopf, of New York, has said that "the municipality which will inaugurate such true and practical philanthropy as to assign a competent physician as family practitioner to a number of families not able to pay for one will be the ideal municipality of the future." I believe in having well organized health departments, both state and municipal, but when it comes to free medical advice in general sickness I must dissent. This touches on a social problem which, if not handled properly, will break up the very foundation of our government. I will say, in passing, that the downfall of the Roman Empire was marked by free dinners and free corn for the poor. Dr. Knopf, who perhaps has done as much work in tuberculosis as any man in the country, says, however, that after careful study he has found out that the tuberculosis problem will and never can be solved without the help of the general practitioner, and that consumption as a disease of the masses will never be successfully combated until the day in which every family has its family physician. No matter how strict the sanitary regulations which boards of health may issue, no matter how many sanatoria and special hospitals for consumptive poor we may have, we must look to the family physician for the bulk of the work in fighting "the great white plague." It is to the physician that we must look for the discovery of the early curable cases. The stooping shoulders, the badly developed and deformed chest, the pale appearance, the slightly hacking cough (sometimes no cough), a marked irritability, a loss in weight, a lack of appetite, a glistening eye, pasty skin, the bright color of the cheeks, a frequent rise of temperature in the afternoon, a dislike to pleasure and to duties which were

formerly easy to perform, should put the family physician on his guard and indicate that the individual having these attributes, signs and symptoms is a subject for a most careful examination."

The medical profession in North Carolina is altogether too slow in taking up this work against tuberculosis. Physicians are either not aware of their duty and responsibilities or they are almost inexcusably careless. Until a specific antitoxin is found it is plain that we must fight an invisible foe by fumigation and such measures as have proven valuable. That we have been careless is shown by the fact that from one-fifth to one-tenth of the deaths are due to this trouble. In some countries of Europe it is said that one-third of the working classes between fifteen and sixty die of consumption. Think of what a fearful loss to society this is. Dr. Langston Price has tabulated the figures regarding a hundred and seventy-seven wage-earning males who died in Maryland in 1903. The data for these figures were acquired without regard to the social standing of the individual, hence it may be assumed that they fairly represent the average condition. The average individual loss was $741.64. The average protential loss to the community of a wage-earner was $8,512. You can readily see the great annual loss society sustains. Besides this loss in dollars and cents, think what hardships are brought to bear on families and indirectly on communities. All of us have seen whole families brought to poverty by the loss of the father in the prime of life. Children have been sent to the factories to earn food for the widowed mother and her nursing babe. Young pupils have been taken from the school-room and caused to grow up in ignorance in order to keep the wolf from the door. All of these things have a tendency to lower the standard of education and morals of our country.

One of the first duties of a physician in his relation to tuberculosis is co-operation with the public and with health

boards—active and aggressive co-operation. In the past physicians have been too apathetic. Some one has said that "by far the most dangerous foe we have to fight is apathy, indifference, from whatever cause, not from a lack of knowledge, but from a carelessness, from absorption in other pursuits, from a contempt born of self satisfaction. Fully 25 per cent of the deaths in a community are due to this accursed apathy, fostering a human insufficiency and which goes far to counterbalance the extraordinary achievements of the past century. Why should we take pride in the wonderful railway system which enterprise and energy have travelled the land when the supreme law, the public health, is neglected; what comfort in the thought of a people enjoying great material prosperity when we know that the primary element of life is denied them? What consolation does the little red school-house afford when we know that a Lethean apathy allows toll to be taken of every class, from the little tots to the youths and maidens?"

The various health boards should add tuberculosis to the list of reportable diseases, and physicians should do all in their power to report promptly. Instead of making false diagnoses they should endeavor to clear up doubtful ones. Another duty of the physician is care in examination of his patient. Many have been treated and are now being treated by reputable physicians for indigestion and general debility when the real trouble is tuberculosis. No wonder many people try patent medicines and the druggist when, if they consult their physician, he asks them a question or two and then prescribes a tonic. Tonics in tuberculosis do very little good unless accompanied by advice as to the proper mode of living. The lack of drugs did not cause the disease, and a supply of drugs can not remove the cause. The physician, too, should be able to detect slight changes in the lungs. If not able to do so he should consult some other physician to help him. If a person objects to consultation the physician

should explain the necessity of an early diagnosis, and that the expenditure of a few dollars for good medical advice at a time when the possibility of recovery is good may mean the saving not only of many dollars in the future, but possibly happiness and an unbroken family. When a diagnosis is made a full and truthful statement should be made to the patient. The day of keeping a consumptive ignorant of his trouble has passed. It is contrary to all scientific teaching. How can a person protect himself or his family if he goes on from day to day spreading his germs broadcast? Successful treatment depends on a knowledge of the specific source of the disease. No physician is justified in allowing his patient to go to a slow but certain death when a free and honest confession may give him a chance for recovery and will give him an opportunity for preventing the spread of the disease to others in his family.

In relation to tuberculosis the physician must be a teacher, a hygienist, and prophylactiker. He must teach the family of a tubercular home the nature of "the great white plague," and tell them of its dangers. He should allay false fears. He should teach them the laws of hygiene and be on the alert to detect carelessness in carrying out instructions. He should not only be a physician but a friend to his unfortunate patient and hold himself in such relation that he can freely give advice regarding the use of patent medicines and cures. Many people think the doctor fights patent medicines because he is jealous. This may be due to the fact that the physician condemns them without explanation.

Finally, brethren, let us all think seriously over this subject, and take into consideration its true character. Remember that now and then epidemics of smallpox, scarlet fever and diphtheria are as nothing compared to this grim monster, which is always creeping into our homes and slowly sapping the life from our fairest flowers.

ASPHYXIA NEANATORUM.

BY CHARLES J. SAWYER, M.D., SALISBURY, N. C.

Every obstetrician has to deal with asphyxia of the new born, and the condition is not of infrequent occurrence. It is a state of suspended respiration due to any interference of the oxygenation of the fetal blood. The child in utero is in a state of apnea, and it derives its oxygen through the placental circulation, hence it has no need for air and, therefore, does not attempt to breathe. Anything interfering with this placental circulation cuts off the supply of ogygen and the child attempts to breathe with no air to inspire, with resultant suspended animation or asphyxia.

I shall not here go into a description of the fetal circulation; suffice it to say, however, that an intimate knowledge of this process is needed to fully appreciate the causes leading up to asphyxia of the new born.

As before stated, anything interfering with the aeration of the fetal blood will produce asphyxia. Among the chief causes we find: pressure upon cord or placental vessels as probably occupying the first place; prolonged pressure on the fetal head, caused by a contracted pelvis or the fact that the child is of unusual size, resulting in a long, tedious labor. The pneumogastric nerve is probably irritated by this prolonged pressure on the head, which results in depression of fetal heart action; hence its inability to propel sufficient aerated blood to the tissues. Premature detachment of the placenta from the uterine wall is another source of asphyxia. We find this condition, however, more in placenta prævia than in the normally attached placenta. As soon as the placenta is torn away the continuity of the placental circulation is interrupted. The child hungers for his supply of oxygen, which has been so suddenly cut off, therefore respira-

tion is reflexly set up, with result that the child inspires not air but amniotic fluid and other secretions of the uterus. If this reflex respiration is at all prolonged we may have an inspiration pneumonia to develop after birth of child, even if we are successful in relieving the asphyxia. Eclampsia and sudden death of mother are contributing causes of asphyxia. In eclampsia, respiration of the mother being temporarily arrested during the convulsive seizure, she is in a state of asphyxia, hence the fetal circulation is deficient in oxygen; effete matter is pumped into the tissues, and we have the child born either dead or in a state of suspended animation. In the sudden death of mother the conditions bearing upon the child in utero are analagous to those just stated, viz, from its supply of sustenance having been suddenly cut off the child is born dead or asphyxiated, the latter of course if delivery is delayed.

We find there are two stages of this condition: Asphyxia livida and asphyxia pallida. In the former or first stage the skin of the child when born is of a bluish color, the face is swollen, the muscles are tense, the heart action is slow but forcible, and the respiratory effort is feeble or absent. In this condition the prognosis is usually good, for with suitable procedure at resuscitation the child is soon made to cry out, indicating the establishment of normal respiration. In the more advanced stage, the skin has a deathly pallor, the lips are cynosed, the muscles have lost their tone, the limbs hang limp, the head rolls about when the child is handled, the heart action is very feeble or not detected at all, and all reflexes are absent. Even with this picture the child may yet be saved if treatment along the proper lines for resuscitation is instituted at once. Prognosis is of course grave, for with every known means of artificial respiration having been practiced, the child often dies.

Treatment.—In the simple forms of asphyxia very little treatment is required other than clearing the mouth of mucus

with the finger of the obstetrician and holding the infant suspended by ankles with one hand, while with the other a few sharp, quick, strokes are given the nates. In addition, if the child still does not breathe, immersion in a hot and cold bath, alternately, usually suffices to bring the little one around. When these simpler measures do not cause the child to respond, it should be placed on a table, on its back, with its head hanging a little over the edge of the table, and a little lower than its body. With a soft cloth or piece of absorbent cotton wrapped around the finger of operator, the mucus is generally wiped out of the child's mouth, and if the child should have inspired mucus the trachea should be cleansed by grasping chest with one hand and with finger of other hand gently stroking the trachea a few times from below upwards, then let finger press firmly at the top of trachea, the other hand still grasping the chest wall, blow into child's mouth, when the inspired mucus will be forced out through the nostrils. Or, the mucus may be aspirated by introducing a number 7 French Catheter to the rima glottidis and the mucus sucked out by mouth of operator. If a short glass tube, containing a small piece of absorbent cotton, is inserted into Catheter, there will be no danger of sucking mucus into operator's mouth, nor will there be danger of infecting child by getting saliva from operator's mouth into trachea of infant. After the mucus is cleared out artificial respiration should be resorted to.

The two principle methods of inducing artificial respiration are those of Sylvester and of Schultz. It is not necessary here to go into a description of these methods because they are both given in detail in most text-books on Obstetrics as well as Pediatrics. Although I have had gratifying results in suitable cases with Schultz' method, yet it is not applicable in those extreme cases of Asphyxia Pallida when the muscles have lost their tone and the heart action is weak. In these cases the cauces and air passages should be cleansed

and the child wrapped warmly and with restoration of color and muscular rigidity Sylvester's method should at first be tried, and then that of Schultz.

I think one of the difficulties with most of us is that we give up too soon. I have but recently had a case of Asphyxia Pallida with which I worked for one and a half hours before I noticed any attempt at respiration, when finally the well-known cry was heard and normal respiration was established. In these extreme cases, when finally respiration has been established, there is great danger of relapse, and, therefore, the child should be watched, and sometimes cardiac stimulants may be indicated for the first twenty-four hours. In some of these extreme cases it may be necessary to practice direct insufflation by means of the soft rubber Catheter, after removing mucus from fauces and air passages. Great care must, however, be exercised lest by blowing into the trachea too hard the air vessicles may be ruptured and the consequent emphysema ensue. In the event of the air passages not being thoroughly cleansed the child may die later of atelectasis, though artificial means of resuscitation may have been successful.

There are some diagnostic signs that the obstetrician may detect of approaching intra uterine asphyxia, such as convulsive efforts on the part of the child, a slowing of the feeble heart, and in head and transverse presentations, a discharge of meconium is symptomatic of a beginning asphyxia. By hastening delivery in these cases much may be done to lessen the degree of asphyxia.

Mr. President, this paper may appear to be a commonplace or trivial subject, but as I view it there is great responsibility for the physician in dealing with this condition. Let us, therefore, not desist from our efforts of resuscitation too soon. It is right and proper of course that we look after the mother well, but let us not forget the little one lying there so still, who may yet awake to be the light and joy of the home.

ALBUMINURIA IN THE DIAGNOSIS OF DISEASE.

BY D. M. PRINCE, M.D., LAURINBURG, N. C.

"Albuminuria is not indicative of disease of any one organ, nor does it point to any general pathological" condition. It is found in typhoid fever, not uncommonly, and, in rare cases, is associated with casts. In pneumonia the scanty, high-colored urine often contains small amounts of albumin. In cerebro-spinal meningitis the urine is sometimes albuminous, and the quantity increased. The urine in rheumatic fever is reduced in amount, highly colored, and not infrequently contains albumin. In scarlet fever the urine is scanty and highly colored, and albuminuria is not at all infrequent during the stage of eruption, though of slight amount. It is said that albumen is found in all severe cases of diphtheria. The common chemical test may give rise to the slight turbidity which is found in ordinary febrile albuminuria in some cases, but in others the deposit is heavy and curdy. It is only when the amount of albumen is considerable, and associated with epithelial, or blood casts, that the condition indicates serious organic diseases of the kidneys. During the chill, in malarial fever, albumen is commonly found, and during the course of the remittent type of fever; but Bright's disease, in any of its forms, is of rare occurrence from the direct effect of paludism. In persons over fifty years of age, suffering from erysipelas, albumen is invariably found, and it is almost always found in all cases.

In the above group of cases the albuminuria is supposed to be due to the intensity of the infective process, and it disappears after the temperature again becomes normal. In the scurvy of adults the urine is often albuminous; affections of the kidneys, too, are of frequent occurrence. The punctate hemorrhages, which occur in the substance of the

bladder and kidneys, may give rise to albuminuria in purpuric diseases of the new born; and is often found in cases when the disease manifests itself in adults. In Lukaemia the urine presents no constant change, but albumen is found present in some cases. Severe anaemia also shows albumen in the urine very frequently; and here the urine is pale, and of low specific gravity—one of the cardinal symptoms of chronic interstitial nephritis. In this group the albuminuria is said to be due to blood changes. Cases where the albumen is due to abnormal ingredients in the blood are jaundice, which is of great severity, or of long duration, usually shows albumen in the urine. Diabetes Mellitus is frequently attended by albuminous urine; according to one writer in nearly thirty-seven per cent. of all the cases coming under his observation albumen was found in the urine along with the sugar. Albumen is rare in diabetes insipidus, but it is found occasionally. Albumen is found in the urine of syphilitis. In cases of lead poisoning albumen and tube casts are found. In persons poisoned by mercury albumen is also found, and in ether and chloroform narcosis. After the injection of turpentine, cantharides, and carbolic acid, albumen appears in the urine. Uric and oxalic acid and urea among the normal constituents of the blood, may induce albuminuria when eliminated in excess by the kidneys. Mechanical difficulties may bring about a condition manifested by the appearance of albumen in the urine. Thus, in diseases affecting the heart there are certain peripheral effects resulting in passive congestion of the kidney, and consequently the appearance of albuminuria. So, too, when the pregnant uterus or any abdominal tumor presses on the renal veins there is a consequent hyperaemia of the kidney which leads to albuminuria. Like results may be brought about by the damming of the blood in the right heart and from pulmonary affections. An apoplectic seizure may lead

to appearance of albumen and tetanus is attended with albuminuria. Migraine and delirium tremens are two other conditions attended by the appearance of albumen in the urine. The urine is albuminous in exophthanic goitre, in head injuries, and during epileptic convulsions. There is a form of functional albuminuria occurring in young persons, particularly boys, which makes its appearance after severe exercise, or a cold bath, or, often after eating certain kinds of food. The albumen may appear at noon or night, or early in the morning; on account of its intermittency this form is called cyclical, or, from a lack of evidence of disease, physiological albuminuria. Albumen in large amounts is found in acute nephritis. In chronic interstitial kidney disease it is occasionally present, and occasionally absent, at least very hard to find. In chronic pasenchymatur nephritis it is constantly present, and in large quantities. It is present in varying amounts in amyloid and fatty degeneration of the kidneys; and neoplasm of this organ give rise to it. In suppurative nephritis it is constantly present, and in good quantity. The urine is found mixed with albuminous material between the time at which it issues from the renal tubules, and the time at which it is voided from the bladder; such as pus, blood, chyle, lymph, etc. In both sexes albuminuria may be caused by inflammation of the ureters, "cystitis, urethritis—simple or gonorrheal—in men, by the pressure of semen in the urethra—in women, by menstrual blood, vaginal discharges, and fistulous communications with an abscess, and the presence of semen in the vagina. Occasionally albumen is found in the urine of persons with movable kidney. Palpitation of the kidney is frequently followed by the appearance of albumen in the urine; and it is found in hydronephisis. A renal calculus, if it induce a suppevative pyelitis, can give rise to albuminuria. Tuberculosis of the kidney frequently causes the

urine to become albuminous, and a cystic kidney is another source of albuminuria.

Under such varying conditions of health and disease, does albumen manifest itself in the urine, that it would seem to depend upon something always accompanying these conditions. The only one thing that could be reasonably supposed, under all circumstances, is a disturbance in the blood supply of the kidneys. This would account for the presence of albumen in the urine, and could be fairly presumed to exist in every one of these diseases. If this be true, then it follows that the renal epithelium has nothing to do with the transmission or retention of albumin and that albuminuria is of no more diagnostic importance than is a coated tongue, or a heightened temperature.

APPENDICITIS FROM THE VIEW-POINT OF A GENERAL PRACTITIONER.

BY E. L. STAMEY, M.D., GREENSBORO, N. C.

Appendicitis is a subject often discussed by the surgeon, but seldom by the general practitioner. The latter, however, as well as the former, should be interested in this, one of the most important of all diseases. The general practitioner is the one who most often comes in contact with these cases, and upon whom, as a rule, rests the responsibility of first making a correct diagnosis. This fact, if recognized, would doubtless lead to a better understanding between the physician and the surgeon, and to a more rational and intelligent treatment of this disease.

The diagnosis of appendicitis in typical cases is comparatively easy. Pain and tenderness in the lower right abdomen, a moderate rise of temperature, nausea, and rigidity of the muscles, are symptoms that point unmistakably to the existence of the disease. Unfortunately, however, in this, as in other diseases, there are but few typical cases. Fever may be nearly, or altogether absent. In one of my cases—that of my own little boy—fever was absent except at one time during the second attack, and then the rise was only one-half a degree. The operation was performed by Dr. J. W. Long, of the Greensboro hospital, on the following day, and it was the opinion of the physicians present that the operation was none too early, since the appendix contained pus and a perforation had already begun.

In some cases the temperature may be high in the beginning of the attack and in two or three days subside almost completely, and the patient show signs of improvement, and yet the appendix be gangrenous, or full of pus. A few months ago I was called to see a young man who was complaining of great abdominal pain, with a high temperature,

accelerated pulse, nausea to some extent, and all the characteristic symptoms of appendicitis. In forty-eight hours the temperature began to subside, was about gone, in fact, and the patient, as well as his father, who had come to see him, thought he was much better. I insisted on an operation, which was finally consented to, but with great reluctance. The operation was performed by Dr. Long at the Greensboro hospital, and the appendix was gangrenous, rotten, and contained pus. His life was saved by not being deceived by a fall of temperature, and apparent improvement in his general condition.

We cite another case in point. A patient of mine, a boy twelve years old, had appendicitis, and notwithstanding the temperature was only ninety-nine on the third day of the attack, when the operation was performed by Dr. J. E. Stokes, the disease had advanced so far the wound could not be closed and had to be left to heal by granulation.

We might speak of other cases of like nature, if we had the time and patience, but these are enough to illustrate the point that fever may be almost or entirely absent even in the worst cases of this dreaded disease.

Pain or tenderness, or both, are nearly, if not always, present, but not always referred to the region of the appendix. On Christmas night I was called to see a young man, a druggist, who was complaining of pain in the stomach. As it was Christmas time I naturally thought he had eaten too much, and I at once ordered a dose of calomel and other remedies suitable in an attack of acute indigestion. But next day my patient was no better, and on the third day there was for the first time some tenderness on pressure over the appendix, and the diagnosis of appendicitis was made. I advised an operation. In the meantime, three other physicians were called in. Two of them advised the patient to

wait. One agreed with me, and we carried the point. This operation was performed by Dr. Long at the Greensboro hospital, the diagnosis found correct, and the operation shown to be an absolute necessity.

Vomiting, though given as a characteristic symptom, is generally absent. In most of my cases remedies, as well as nourishment, have been well borne, and there has been but little, if any, nausea.

In the diagnosis of this disease the practitioner need not look every time for a typical case, but in many cases he must make up his diagnosis by taking into consideration all the facts before him, rather than any one symptom or group of symptoms. There is one consideration, however, in arriving at a correct diagnosis in this disease which should not be forgotten. It is one of the most frequent of all the diseases of its class. In making this statement, which will be disputed by some, we will not give a list of dry statistics, a thing we have tried to avoid in this paper. On the other hand, we appeal to the experience of those, whether physicians or surgeons, who have given to this subject any special attention.

The treatment of appendicitis consists of two steps:

1. *Medicinal.* The patient should be put to bed and given absolute rest. This is the first law of surgery, and in this case can be observed by the physician as well as the surgeon. You have an inflammation, and perhaps a suppuration at the most dangerous point in the whole human system, and it would seem that absolute rest is of the greatest importance. To this end all food should be withheld, and the patient given nothing but water. Purgatives, even simple laxatives, are to be withheld. The intestines should be kept at rest rather than increase peristaltic action. If the pain is severe, a hypodermic of morphine should be given, and this is about all the medicine the writer ever gives.

2. The next step in the treatment of this disease belongs to the field of surgery. Every case of appendicitis is an operative case, and the sooner we call to our assistance the services of the surgeon the safer it will be for our patient. In making this assertion, I am aware that some, if not many cases, get well without any aid whatever, but they are certain to return. The sun will shine for only awhile, and then the black and angry cloud will rise again and the storm burst forth in all its fury, and each succeeding storm will be greater than the one gone before. The time will come when, if death does not intervene, an operation will be advised, but then it will, perhaps, be too late. Every one who has had much experience with these cases knows that if operated on in time and that by a competent surgeon, most cases of appendicitis get well. But if neglected, every hour makes the operation more difficult and dangerous to the life of the patient.

I do not sympathize with the so-called "interval operations." As Kelly says, "The interval operation is not for the acute case, but for the case that comes to the surgeon during the interval." If I could place my patient in a well regulated hospital, where he or she could be watched every hour in the day, I might be willing to wait for a more favorable opportunity to arrive, and have my patient operated on after the fever, pain and tenderness had subsided. But that favorable time might never come, and in every one of these cases I feel that now is the "acceptable time." I can not feel easy until the surgeon has had his turn. A great deal has been written in the local newspapers, and by others ignorant about these things, criticising the surgeon's knife and advising mush poultices, epsom salts and everything else, from antiphlogistine to packing the patient in cold storage. But in my opinion when we, as a profession, recognize the great importance of early operation in appendicitis many more lives will be saved from the insidious stroke of this awful disease. I have had many cases operated on,

and in every case, when the operation was performed in time, the patient has done well. In other cases, when the operation was delayed, the result has been different.

Four years ago I was called to see a young man who gave a history of having had, three months before, what was diagnosed by the attending physician as "acute indigestion." The patient was in Richmond at the time he had the so-called indigestion. The next day he was able to go about his work. Two months later he had another attack, but it was so slight that he did not call a physician. When I was called to see him he was suffering with great pain in the abdomen. It was the first Sunday in April. That evening the patient spent at one of the hotels with some friends. He went home, kissed his mother good-night, and retired at 10 o'clock in apparent good health. My visit, which was made four hours later, and immediately after the attack, was my first to that patient, and soon convinced me that I had to deal with a ruptured appendix. I sent him to the Whitehead-Stokes Sanitarium at Salisbury, the nearest hospital to me at that time. The operation was performed by Dr. Stokes as soon as possible, but the peritoneal cavity was already infected with pus, and, as the surgeon had feared before the operation was performed, the case was a hopeless one. We gave him the only chance he had, but it was too late. How different the result might have been if the operation had been performed sooner. In January was the first warning, in March was the second, the third came in April, but it was then too late. My opinion is that the so-called acute indigestion that the young man had three months previously was an attack of acute appendicitis, and that pus had been present in the appendix all the while. The rupture was simply a delayed sequence and could have been prevented, and the boy's life spared if in time the warning had been heeded and the appendix removed.

A few weeks before the above experience I was called to see an excellent woman. Her home was in England, but

at this time she was visiting in this country, being a prominent minister in the Friends Church. She had preached on Sunday morning and seemed in good health. That night she was seized with sudden pain in the abdomen, and I was called to see her. The pain was so great that I had to give her a hypodermic of morphine. The muscles were rigid, the temperature high, and there was nausea and vomiting. I called in consultation Dr. Stokes, and as soon as possible the patient was removed to the Whitehead-Stokes Sanitarium where an operation was performed, only to find the abdomen full of pus and the patient beyond hope. This good woman gave a history of perityphlitis twenty-five years before, and it is my opinion that at the time she preached her sermon on that Sunday morning, and, perhaps, for days before, there was a cavity of pus in the abdomen, which had simply ruptured at the time of my first visit. Twenty-five years before she had the first attack, and all that time she had carried with her a diseased appendix, which at last caused her death.

Many other cases where the operation was delayed might, of his own personal knowledge, be cited by the writer as illustrating the danger of procrastination in this disease, but these are sufficient at this time. On the other hand, as I have already intimated, all of the cases that I have had operated on before the disease had advanced too far, have done well and made uninterrupted recoveries. Within the last few weeks Dr. Long operated on a case for me at the St. Leo's hospital, and in five days my patient was able to sit up, and in one week she returned to her home. This case is illustrative of many others I might mention.

And now, gentlemen, if what I have written should prove a stimulus to even one general practitioner in the early recognition and rational treatment of appendicitis, I shall feel more than repaid for any trouble I have had in the preparation of this paper. This is the only object sought and the only compliment asked.

TREATMENT OF TEETHING.

BY J. STEVENS BROWN, M.D., HENDERSONVILLE, N. C.

Mindful of the fact that some still consider dentition strictly a physiological process and therefore not amenable to treatment, I venture the opinion that teething often needs treatment and that dentition, comparable to parturition, is best accomplished under the supervision of a physician. During this vulnerable transition period, the pediatrist need not be meddlesome, but he should exercise the same "watchful expectancy" so necessary in the obstetrician.

As in parturition, as in puberty, as in the menopause, so in dentition; the patient would usually pass safely over the trying period without professional assistance, but we are confident that intelligent supervision in each class is a great life-saver and health-giver. For the sake of abnormal cases all cases should be watched.

What is the pathology of dentition? It is chiefly and briefly this: a congestion of mucous membrane, an overstimulation of certain glands, and an irritation of the exquisitely sensitive fifth pair of nerves by continuous pressure on the terminals. You may readily see how such congestion may at least predispose to stomatitis and how such overstimulation will give rise to an excessive secretion of saliva, usually followed by and probably causitive of more or less alimentary disturbance.

Odontalgia in an infant, due largely to pressure in the matrix, may distract its speechless, helpless victim just as a jumping toothache completely unnerves an adult. Let this condition continue for days and weeks, and I, for one, will not deny the possibility of its causing convulsions.

How shall we treat dentition? Bring the baby to that period in the pink of condition. See that its food and drink

are right, its habits right, its surroundings right, and keep them right. The proper food during the first year is mother's milk. Somewhere from birth to the ninth month, depending on quality and quantity of mother's milk and condition of child, mixed feeding should be begun. Gradually artificial feeding should be increased in accordance with the child's needs. The best artificial food is fresh, clean cow's milk. Properly modified, it is the only artificial food needed up to the sixth month, though in many cases, prepared rice, barley, oats or wheat acts well as a modifier.

Every case must be individualized. Study each patient and treat each case on its own merits.

Teach the child regular habits in eating, sleeping and evacuating, and so prevent much trouble; preserve the mother's health and with her health, the baby's food supply, and so rear a happy, restful child, instead of a fretful bundle of nerves. Even with the best of nourishment and model habits, an atmosphere laden with dust in which abound tubercle bacilli or other disease germs, or exposure to mosquitos, flies, or other germ carriers may prove a serious obstacle to the child's reaching the teething period in good shape. After all proper precautions have been observed in order to bring the child to and through this period safe, sane and sound, it sometimes suffers from stomatitis, indigestion and diarrhoea, becomes peevish and loses weight. The proximate treatment here, of course, is as previously indicated. Let the child continue to have proper food, drink, habits and surroundings. The immediate treatment depends on the nature of the disorder. For stomatitis, a bland antiseptic mouth wash may fill the bill. Accompanying this sore mouth may be indigestion with or without diarrhoea. Here the mild chloride, castor oil, a period of perfect rest for the digestive system and more careful regulation of the diet usually suffice. Partially pre-digested food may be needed.

Bismuth and sulpho-carbolates are sometimes indicated. Enemata of normal salt solution are often advantageous.

In some cases the bracing sea breeze or the cool, invigorating mountain air seems essential to baby's health. Nervous symptoms may be ameliorated by bromides or sedatives. When the pressure is great, grave symptoms are often promptly dissipated, most marked and gratifying relief is afforded, and the restless little sufferer secures sweet sleep and refreshing rest after the ancient operation of lancing the gums.

This brief paper is not meant to be exhaustive—only a peg on which to hang a profitable discussion.

Chairman's Report.

STATE MEDICINE AS NOW ENFORCED AND HOW IT SHOULD BE.

BY W. F. HARGROVE, M.D., KINSTON, N. C.

Mr. President, Officers and Members of the Society:

About last February I received the transactions of the last meeting, and on examining them, found, to my surprise, that I was Chairman of a Section. I am sure that you, after hearing my paper, will be sorry that I found it out. When I am called to a case, I endeavor to make a diagnosis, if possible evade a prognosis, and for treatment, try to correct the errors and give nature a chance to cure.

So in presenting my subject I have tried to state facts—so you can make a diagnosis. I have left out the prognosis. The treatment, after a few suggestions, is left with you and the State. The State to represent nature in this case.

Our State, through the officers and members of the State Medical Society and the Board of Health, has attempted to stamp out disease, and prevent imposition upon its citizens by the making of laws.

Now the State's duty can be briefly stated as follows:

1. To prevent disease.
2. Care for its sick.
3. Prevent fraud.
4. Pay the doctors.

Under the above divisions I will endeavor to show, in a brief way, how the State is looking after its people, and how it should do it. What I will say may sound harsh, but truth is never careful of how it upsets theories or on whose corns it treads.

My idea of what a doctor should be is expressed in "Beside the Bonny Brier Bush," and the following verses from "Medical Rhymes":

In every phase of human life,
From earliest breath to latest sigh,
'Mid hours of peace and scenes of strife,
When men are born, and when they die,
In cottage, palace, hovel, hall,
On silken couch, or stony ground,
Where sickness, pain, or death may call,
"The State's best citizen, the doctor's" found.

When others flee contagion's breath,
Forgetting earth's most sacred ties,
And safety seek from march of death,
'Mid healthier climes, 'neath cooler skies—
When others shrink from sight of woes,
And shut with horror from their gaze
The sights which only misery knows,
"The State's best citizen, the doctor," stays.

With open heart and cultured mind,
In church or state, in field or mart,
In all good works his hand doth find,
He shrinks not from an active part.
With all who seek by word or deed
To help a brother man to rise,
Of every nation, every creed,
"The State's best citizen, the doctor," vies.

The State through its health officers endeavors to enforce certain laws to prevent acute, infectious, contagious diseases from becoming epidemic. It should go further and instruct the people on the evils of immorality, and the baneful effect of filth on the health. Especially the carrying of diseases by flies, mosquitoes, dust, polluted water and hook worms, etc. For example, there is no good reason, known to me, why my neighbor should make an incubator of his stables, to raise flies to contaminate my food with feces from near-by privies, into which has been dumped the excrements of typhoid patients.

I believe it has been pretty well settled that impure water and flies are the great carriers of typhoid, and both of these are within the power of the State to correct, but only through public opinion.

Our schools should teach the Common Laws of Health, thereby raising the standard of living; then all will become producers. By the sweat of your brow shall you earn the right to live, but to properly sweat you must have health.

Enormous amounts are spent each year by people in search of that priceless gem, as is evidenced by the cure-alls that are exploited and swallowed by the gullible public, without ever knowing the contents of the bottle, so the label says "it is harmless," and our State raises not a finger to stop this "wholesale slaughter of the innocent."

Springs and climate are lauded to the skies without much regard for truth. What can the poor sick man do? He probably is reaping wild oats sowed in his youth, or what was sowed for him by his parents. He wants help, and here is where the State can do its best work, not for him, but for the children who will be his successors.

Teach them that there should not be a double standard of morality, as there now is, one for men and one for women; and that will settle the social evil; that cleanliness is godliness, and that drones or parasites have no place in North Carolina; that purity in its broadest sense, combined with work, is the greatest producer of health known.

An idle person is the devil's emissary. The sick, the lame and the blind will always be with us, until we have evoluted into the Millenium, when health and happiness will be the heritage of all; and it is up to us to hasten that day through the medium of Public Opinion.

A sick man with a real or imaginary trouble will, like a drowning man, grab at a straw, and that straw is usually the suggestion of some friend or a newspaper patent medicine advertisement. Spend his money and his health and when bankrupt of purse and a physical wreck, send for the doctor. Should the doctor attend him he must expect his reward in the next world, but the unfortunate part of that

kind of pay is, that the doctor's creditors will not accept a check on that bank in payment for groceries. They want the coin.

A well man is, or should be, a producer, and that is the kind our State should foster and care for; prevent him if possible from getting sick. Our State provides for the demented, deaf, dumb and blind—as a rule non-producers; how much more should it be interested in establishing hospitals for the sick and other non-producers. The doctor should not be required to "bear this cross alone." It is the State's duty to provide for the health of its people, and when sickness enters a home, be it a palace or a hovel, to see that proper care is taken of the unfortunate, in a well equipped hospital, in order to quickly restore him to the productive class, and prevent the further spread of the cause of his sickness; thereby protecting the well in caring for the sick, without money and without price.

As matters now stand, for a price our State says to a recent graduate, if you pass the gauntlet of the State medical examiners, I will license you, and for the further fee of $5.00 per year I will allow you to work out the State's salvation from disease without pay; make out death certificates, to bury your mistakes, blow your own horn, or get some one to do it for you.

That you shall not be required any more to study the science of healing, and that moss may grow upon your back until you awake in the great beyond and there face your accusers for their untimely demise. As the poor are always with us, you shall not be required to attend them; send them to a doctor that has not a paying practice, or give nature a chance to cure them. You are now a regular. In testimony whereof the medical examiners attach their great seal and sign their names to the license in behalf of the State, without any restriction.

The ethics of our Society says to them: "Sirs, unless patients are cured our way, it is rank heresy. It is unprofessional to teach people how to prevent diseases, for by their infirmities we have our wealth." "Great is Diana of the Ephesians." "Liberty, how many crimes are committed in thy name," and our State raises not one protest.

I am sorry to say that some of the brethren take the above literally, and after attending one or more meetings of the Medical Society, and that usually at extreme ends of the State, go home, hang out their shingle, and boast of their rapidly growing practice.

> "When with drugs they well have swilled him,
> Tell his friends *the fever* killed him;
> All that could be done was done;
> The worst case they ever saw, but one;
> And this is a mighty consolation,
> In such an awful visitation."

To better illustrate what I mean I will give a few examples:

1. Shortly after having studied anatomy, I was commenting on the, to me, unfairness of an anatomy examination, to one question—Describe the cuboid. A doctor said I was very much mistaken, as it was a very important bone; that recently he attended a patient whose hand was caught in a gin and his cuboid cut to pieces, and he came very near losing his arm.

2. Was in a physician's office when a patient came in to be treated for Epithelioma. The static machine was started, a crooks tube excited and patient properly placed and Ray applied. In a few minutes I remarked that he did not protect the patient from the Ray. The doctor replied, "That is so," and taking a piece of blotting paper from his desk, cut a hole in it, and placed the paper on the patient, leaving the Epithelioma exposed.

3. In speaking to a doctor about a chronic relapsing pas-

tular skin infection, on an exposed surface, he insisted that it was psoriasis.

4. Another physician in speaking of the therapeutics of the ultra violet ray in skin affections, showed me his ultra violet outfit, which was an ordinary incandescent 16 candle power lamp with a blue or violet colored globe with a reflector.

5. Another physician when consulted as to the advisability of giving immunizing doses of diphtheria antitoxin to some children that had been exposed to diphtheria, advised against it, saying there was more danger in the antitoxin than in diphtheria.

Now these doctors are among the leading men in medicine in their respective communities and have large and remunerative practices. I know them to be men of sterling worth, and above the average if their respective patrons is any testimony.

To say these men are fakes would be doing an injustice. They are not required and have not studied the subjects. As there is no way for the public to know or judge such matters, we have as a result the various kind of healers, pathies and patent medicines.

Our medical journals, and I am sorry to say the one edited by our Honorable President is no exception (be it to the shame of the doctors) and secular press, are full of glaring medical advertisements in which truth would be a foreign body. Because it pays.

These nostrums would not be so extensively advertised if they did not find purchasers. Read one of the advertisements in your local paper; you will see that in the majority of the cases your local druggist permits his name to be used as a guarantee of its worth. Now the druggist is an honorable man, perhaps an alderman or pillar in the church, or at least a good business man. He pushed them because it pays. When the poor in health asks him for help

he delivers a bottle of cure-all for so much cash. None of his business if it is a poison; and he holds a license from his State to do it.

"When a traveler is relieved of his purse by a highwayman, the people are up in arms and ready to punish without court or jury. How different is the situation when those who look after public health by exposing the frauds that rob the credulous sick? They have to fight the battle alone.

"The public is prone to assume, without investigation, that the medical boards are prompted by professional spite and jealousy in such exposures." Nostrum venders and quacks "live principally by the murder of the innocents" through the medium of the press, and are continually advising the dear people about their liver and kidneys, etc.

"Just how much lower in the scale of humanity a man can go, than to prey on the fears of the people for a few dollars, I do not know; there may be something more despicable—but what is it?

Now to me the State's duty is plain. Let no medicine be sold, or offered for sale, that does not give the amount of each ingredient in the bottle in plain English, and if one or more of them is an accepted narcotic or poison, then label it poison. Should the advertisement state things about the properties that are untrue, confiscate and destroy the whole supply. Stop all fake advertisements and scare-heads sent out in various ways for the public to read.

As to the treatment of the doctors, they should be required to keep up with the advancements in medicine, and every few years be made to stand an examination on preventive medicine, diagnosis, prognosis, and treatment of disease found within our State.

This would require a graded system, and should a doctor fail to keep up, let the public know who they are, so they can protect themselves from these incompetents, or at least

know that which they have the right to know, who are the low grade or incompetent men.

This can best be accomplished by making them State officials and salaried men, with proper authority to enforce hygienic laws. With one incentive only—prevent sickness.

As it now stands a doctor is virtually a parasite; makes his living by taxing the people for their infirmities.

A sick man is a non-producer and an expense to his family; and on top of this comes the doctor's bill at the very time he is least able to pay.

So long as the doctors have to collect money for services rendered during sickness will the incentive to make money warp their judgment, and will give best attention where pay is best.

Health being the heritage of all, the State's duty can be summarized as follows:

1. Prevent disease by teaching people the cause of disease; how spread and how prevented.

2. Care for the sick by having properly equipped hospitals free to all.

3. Prevent fraud, by stopping fake advertisements, properly labeling all medicines, and hold druggist responsible for all medicine sold by him.

4. Pay the doctors. Have them examined and graded every few years, and this published for the benefit of the people.

UNJUSTIFIABLE NEGLIGENCE IN THE DIAGNOSIS OF PULMONARY TUBERCULOSIS.

BY EUGENE STREET, M.D., GLENDON, N. C.

One of the most important duties of the physician to his patient, to his State and to humanity, is the early diagnosis of pulmonary tuberculosis, and, strange as it may seem to say so, it is one of the most neglected. And, this negligence is unjustifiable. It is only one step further to go to say that it is criminal. Enthusiasts and impostors have, however, in all the history of Medicine, brought forth so many false theories, and claimed to have discovered so much that proved to be mistakes, that the body of medical men necessarily have to be the most ultra-conservative body of working scientists. For this cause no new discovery can be generally accepted and put into operation by physicians, unless it to be one that is easily demonstrable. Soo, too, deeply rooted opinions and theories can not be easily eradicated—and especially is this true when such opinions and theories are very nearly in accordance with the truth. Then we will not say yet that it is criminal to fail to make an early diagnosis of pulmonary tuberculosis. But in the light of present knowledge failure to do so is unjustifiable, and it does not require a prophet to see that shortly such negligence will be regarded as criminal.

Before the cause and true nature of tuberculosis was definitely known the physician was excusable for failure to interpret and appreciate the significance and importance of the early manifestations of the disease. Now, when that knowledge is supplied and it is known that the control of the disease and the curability of the case depends upon properly directed treatment instituted in the incipiency—when the tremendous importance of an early diagnosis is known—it is incompatible with reason and justice to relieve the

physician from the responsibility of negligence to perform a duty so important and so clearly required of him.

Consumption has always been regarded as an incurable malady and physicians have not concerned themselves about what they had a preconceived idea could not be remedied. This is the cause of the general neglect of tuberculosis. And, when it comes to dealing with the advanced case, this idea is about correct. And persistent attempts to cure advanced consumption has resulted in discouragement to the conscientious physician, and the general belief by the people that tuberculosis is incurable. This is unfortunate but true. The fact that we want both the physician and the laity to recognize is that pulmonary tuberculosis is curable at the beginning.

It is little use to call out the fire department after the house is filled with fire and half burned down, so far as that house is concerned. So, too, it is little use to institute treatment for consumption after the lungs are filled with tubercles, and are half destroyed. But it is an easy matter to quench the first little blaze in the building, and a comparatively easy thing to arrest incipient tuberculosis in the lung. It is the watchman's duty to be on the lookout for fire. The physician is the watchman who should be on the lookout for tuberculosis. Neglect of the advanced case of consumption is no more to be thought of than neglect of a burning building in a city. The fire department protects other buildings from the flames, and from the sparks that are scattered far and wide. Proper treatment of the consumptive not only makes life more comfortable while it lasts, but protects others from the myriads of tubercle bacilli that are coughed out and scattered far and wide.

Detailed directions for making a diagnosis of incipient pulmonary tuberculosis can not be gone into in a paper like this. Suffice it to say that it requires a knowledge of the

general principles of medicine, anatomy, physiology, pathology and physics and a careful physical examination of the chest, and ability to correctly interpret all the findings. One thing I should like to say right here, however, is this: it is impossible to make a satisfactory examination of the lungs unless the chest is bared. I mention this because some young women who were, years ago, patients of mine, are in their graves, probably, because this was neglected. They, very naturally, objected and I did not insist that the chest be bared. When the diagnosis of pulmonary tuberculosis was positively made the advanced state of the disease was beyond remedy. Now I insist upon a bared chest in all cases, and I would as soon guess at the color of peas through a thick bag, whether white, yellow or black-eyed, as to guess through any clothing whether there was any primary tubercular lesions in the lungs.

Who can tell how far toward absolute control of tuberculosis we should be, if every new case were recognized in its incipiency and properly treated? It is the advanced case that is a walking pestilence and a menace to friends and community. It is the advanced and not the early case that spreads infection everywhere.

We have discussions without end in regard to the control of tuberculosis. It is possible to do it, but it is a fact that should be clear to all that the only way it will ever be done is by the early diagnosis and proper management of all new cases as the first and most important thing to do, and then, the proper management of all advanced cases. In less than a decade there would be a greatly lessened number of new cases to be dealt with. By the early diagnosis, and the institution of proper treatment there would be a far less number of those cases that would reach the advanced and infectious stage, and as the infection was lessened there would be fewer and fewer new cases, and less and less dan-

ger of infection and re-infection, and we should see the beginning of the passing of the great white plague which claims its victims by the hundreds of thousands in our country every year.

Is not this sufficient reason why the medical profession should become aroused and interest itself in a duty so long almost absolutely neglected? Is not this a sufficient reason why the profession should urge all necessary State regulation in regard to tuberculosis? Would it not be in the right direction for our State Society to insist that hereafter every candidate making application for license to practice medicine in this State should be required to satisfactorily demonstrate the ability to diagnose the earliest signs of pulmonary tuberculosis? Would it not be a good thing if some Supreme Court Judges who undertake to define and regulate the practice of medicine, and who know as little about such things as they care about the welfare of the people, would amend some opinions handed down, which allows an army of incompetents and impostors to prey upon the credulity and ignorance of the people?

It is high time the medical colleges, the text-book writers, the medical profession and the people give to the early diagnosis of pulmonary tuberculosis the attention its importance demands.

No physician, regardless of standing or success, can afford to neglect the early diagnosis of tuberculosis; to do so is to abuse the confidence reposed in you, and conscience and self-respect are alike outraged.

1. Consumption is an infectious disease.

2. At the commencement of the disease consumption is curable.

3. It is the physician's duty to diagnose consumption while it is curable.

4. The physician who fails to make a diagnosis during the early stages is guilty of unjustifiable neglect.

5. The medical profession should no longer neglect a subject of such vast importance as the early diagnosis of pulmonary tuberculosis.

6. The people should be taught the necessity of an early diagnosis of consumption; an early diagnosis means a chance for recovery, a late diagnosis means death.

7. On account of the great prevalence of tuberculosis, and the incalculable importance of an early diagnosis, and the general neglect of the subject of an early diagnosis by the text-book authors, the medical colleges and the medical profession, the State Board of Examiners should require every candidate for license to practice medicine to pass, in addition to all other requirements, a satisfactory examination on the symptoms and evidence of early tubercular involvement of the lungs.

ECLAMPSIA—WITH REPORT OF THREE CASES.

BY J. W. M'GEHEE, REIDSVILLE, N. C.

Eclampsia is an acute disease, which may appear in pregnant parturient or puerperal women, and is characterized by clonic and tonic convulsions, during which there is loss of consciousness, followed by more or less prolonged coma.

Aetiology.—As yet we do not know the exact cause of Eclampsia. Probable causes are heredity, hydramnios, ammonium carbonate circulating in the blood, carbamic acid and twins. The most probable cause is an auto-intoxication, resulting from heaping up of some substance in the system during pregnancy, and that its presence was indicated by an increase in the toxicity of the blood serum, and a decrease in that of the urine.

Pathology.—The pathological findings are more or less constant. In most cases albumen and casts will be found in the urine, necrosis of the renal epithelium—a condition similar to an acute nephritis.

Liver.—The lesions in this organ consist of irregular shaped reddish or whitish areas, scattered throughout the entire organ, and especially around the smaller portal vessels. They can be seen with the naked eye, and give the liver a mottled appearance. Under the microscope they are recognized as areas of necrosis, in which blood cells are usually present.

Brain.—Oedema, hyperaemia, thrombosis and apoplexy being described as the main lesions.

Lungs.—In the lungs are found a diffuse lobular pneumonia. Hemorrhagic extravasations in the pulmonary parenchyma and under the visceral pleura hemorrhagic infarcts. The blood vessels are frequently found thrombosed.

Symptoms.—Eclampsia rarely occurs before the third

month and becomes more frequent the nearer term is approached. Seventy to eighty per cent. of all cases occur in primiparous women. Probably the first and most frequent symptom is pain in the epigastrium. Oedema of face, hands and feet; habitual headache and disturbance of vision. The urine becomes decreased in quantity, while albumen and casts are found in abundance and a marked diminution in the amount of urea. When these symptoms become marked you may expect convulsions, varying in number from one to fifty. The pulse is usually full and bounding; arterial tension high. At times the pulse becomes rapid, weak and compressible, due I think to the profound toxemia. Temperature usually from 100 to 102; may be normal or may reach 107 before death. The diagnosis usually offers no difficulty, especially where the patient has been under treatment during the latter months of pregnancy. When a woman is first seen in seizure it becomes necessary to differentiate the condition from uraemia, epilepsy and hysterical convulsions.

Prognosis.—The prognosis is always serious; eclampsia being regarded as one of the most dangerous conditions with which the obstetrician has to deal. The maternal mortality varies from twenty to twenty-five per cent., and that of the foetus from thirty-three to fifty. The prognosis is more serious if the seizure comes on before or during parturition.

Treatment.—Prophylactic treatment is most important. The difficulty is in not being able to see your patient three months before time of labor. It is the duty of the physician to examine the urine at regular intervals, and if albumen is found in the urine she should at once be put on treatment. Her bowels should be kept well open with calomel and saline. Of the salines I prefer Sodium Phosphate given before breakfast in large enough doses to cause one watery stool per day. She should drink freely of some alkaline

water, and I usually give in addition ten grains of Potassium Citrate and two drams of infusion of digitalis between meals and at bed time. She should be encouraged to take a walk morning and evening; a hot bath on retiring will be found beneficial.

Diet.—The diet should consist only of milk. If with this treatment no improvement is noticed and the symptoms become more apparent, it is wise and best to induce premature labor, even at expense of the child. This may be done by introducing a sterile bougie in the uterus; better still is the dilating bag. In a primiparous woman it may be necessary to dilate artificially. This being accomplished the bag is folded in as small a bundle as possible, and with forceps introduced into the lower uterine segment; 500 c. c. of sterile water is pumped in and a weight of five pounds is attached to it and swung over the foot of the bed. As soon as the cervix is dilated deliver rapidly, as the cervix soon contracts. I do not believe in the deep cervical incisions, as it is frequently extended up into the lower uterine segment during the delivery. There is great danger of shock, the hemorrhage being marked; it is frequently necessary to tampon the uterus and vagina. Infection is more frequent in these cases. The bimanual method is the best, the fingers readily detecting the resistance, and there is less danger of lacerating the cervix.

Convulsions.—Convulsions are controlled by the hypodermic injections of from one-fourth to one-half grain of morphine, chloral and potassium bromide, by the bowels, in a sufficient dose to get a sedative effect.

Venesection.—I am tempted to say we should bleed whether pulse is slow or high, strong or weak. If former, the arterial tension is high, and by bleeding we diminish the tension and withdraw some of the poison. If the pulse is high and weak it is due to a toxemia, and the poison should

be withdrawn. Frequently we find the pulse drop from 150 to 70 or 80, showing that the toxemia was the cause. It is wise in these cases to give a salt infusion, same quantity being given as blood withdrawn. In this way we dilute the poison and keep the quantity of blood the same. If we have not access to a hospital and not in a position to give a salt infusion, then I resort to Norwood's tincture of veratrum veride minims six hypodermically every hour until convulsions are controlled. If the pulse is high, weak and compressible and tension low, morphine should be given instead of veratrum. After delivery we should continue the milk diet and a hot bath given once a day. She should drink freely of alkaline waters, and in addition I usually give Potassium Citrate grains ten and drams two of infusion of digitalis in a glass of water between meals and at bed time; the bowels should be kept well open with salines. This treatment should be continued until all symptoms disappear.

Case A. Primipara; age eighteen; full term; white. Had no physician with her at time of labor; an hour after child was born had a convulsion; in two hours another. I was called and found the patient in a semi-conscious condition; face, hands and limbs swollen, and a pasty, clammy skin; pulse, 90; temperature, 100.

Treatment.—Calomel grains 20, magnesium sulphate two ounces by the mouth; tincture of veratrum minims six, pilocarpine grain one-fifth hypodermically; chloral grains thirty, potassium bromide drams two, water two ounces by the bowels. She was surrounded by hot bottles, and wrapped in a sheet saturated with hot water, and then wrapped in a blanket. In two hours she had another convulsion. I repeated the pilocarpine and veratrum; in six hours two more convulsions, and I repeated the pilocarpine and also gave her one-sixtieth of a grain of digitalis hypodermically, and chloral grains 20, potassium bromide drams one in two ounces of water by the bowels. I also gave her another ounce

of magnesium sulphate by the mouth, and within the next six hours she had ten or twelve watery stools. During the next week she ran a low temperature, pulse 85 to 90. I at once put her on a milk diet; had her to drink freely of lithia water and in addition to take ten grains of potassium citrate and two drams of infusion of digitalis between meals and at bed time. Sodium phosphate was given her each morning before breakfast in sufficient doses to cause one or two watery stools a day. The oedema lessened, the urine and urea increased in quantity and the albumen and casts diminished. At the end of three weeks no albumen was found and mother and child continued to make an uneventful recovery.

Case B.—Primipara; age twenty-four; white; pregnant eight and one-half months. Patient had had seven convulsions when I first saw her. Her face, body, limbs and vulva were very much swollen; tongue lacerated and torn; temperature 101; pulse 100; and in a semi-conscious condition. On examination I found L. O. A. presentation, internal os dilated, external os closed. I at once anaesthized the patient and then called in her husband to continue the anaesthetic under my direction, as I was six miles in the country and unable to call in another physician. After scrubbing my hands and patient well I dilated cervix bimanually, applied forceps and rapidly extricated the child. The whole time consumed two hours. I had some trouble in resuscitating child, due I think to the toxemia of the mother and to the chloroform. The child and mother made an uneventful recovery.

Case C.—Primipara; age 20; white; pregnant 7½ months. Patient had had five convulsions when I first saw her. Face, body, limbs and vulva markedly swollen; pulse, 110; temperature, 102; semi-conscious. On examination I found L. O. A. presentation, internal os dilated, external os closed.

I at once chloroformed patient and had her mother to continue anæsthetic under my directions, as I was again in the country. I scrubbed my hands and patient well, dilated cervix bimanually, ruptured membranes, and did an internal podalic version followed by rapid extraction of feotus. The child lived about two hours; the mother made a slow recovery under above treatment.

I had seen none of these patients before they went into labor, and I am confident that nearly every case of eclampsia could be prevented if we could see our patients three months before time of confinement and give them proper treatment.

THE USE OF THE MICROSCOPE IN GENERAL PRACTICE.

BY EVERETT A. LOCKETT, M.D., WINSTON-SALEM, N. C.

All through the history of medicine, from time to time, instruments have been given us as a means of diagnosis, but there is none, perhaps, of more inestimable value than the microscope.

In order to successfully treat our patients it is essential that a diagnosis be made as soon as possible; it is not only due to the patient who trusts his health and perhaps life in our hands, but also gives the physician himself a better stand in the community when it becomes known that he makes his diagnosis at the beginning or early in the course of the disease; rather than late or after the patient has gotten well.

The complaint has often been made that a physician is too busy to fool with a microscope—that only those who have nothing to do are always looking through microscopes. The busier a physician is the more occasion he has for using a microscope, for no one has a right to assume the responsibility of a case unless he be competent of treating it intelligently; and how can he do this without making a diagnosis, and in such a large percentage of cases, how can this be done without having recourse to microscopy.

That the microscope has a legitimate use in general practice none can gainsay. Everything can not be told by the microscope—the microscope will not diagnose rheumatism for us, neither does it help us in many of the nervous diseases, but there are comparatively few cases in which it will not help to clear up the diagnosis, and in all obscure cases its use appears to me to be indispensable, especially in cases where diagnosis is made by exclusion.

At this late date there are scarcely any infectious diseases the germs of which the bacteriologists have not taught us how

to find; this in general practice we can find by examining the blood and excreta. Having done this early in the disease, the diagnosis being established, we can give direction as to the proper care and sanitation of the patient, and, at the same time, protect the rest of the community from a similar infection.

To prepare to examine the blood and excreta does not require a very great expenditure of money, and an elaborate laboratory. Presupposing a previous training in bacteriology and urinalysis, the entire space required for a general practitioner's laboratory would not be greater than the top of an ordinary office desk, which may be placed in any convenient, well lighted corner of the office. This to contain any good microscope, with a two-thirds and a one-sixth objective; and if he can afford it, a twelfth oil immersion lens, a few test tubes, red and blue litmas, a bottle of pure nitric acid, Fehling's solution freshly prepared, a urinometer, a bottle of ascetic acid, a bottle of triple stain, a bottle of methylene blue, a bottle of carbon Fusching four per cent solution of sulphuric acid, cover glasses and slides. With the above equipment any general practitioner is prepared to do the requisite amount of microscopic work, and at the same time to do his patient the most good, to say nothing of the personal satisfaction to be derived from the consciousness of having made an early scientific diagnosis.

The physician who does this, has merely done his duty and deserves no praise; but is certainly not to receive censure and ridicule of his colleagues who don't feel able to go off to familiarize themselves with this work, or else are too lazy to do so.

There is scarcely a day in general practice that one does not have use for his microscope, in both medical and surgical cases. Just a few illustrations as to its practical value: It is very amusing at times how many cases of malarial fever which ultimately turn into typhoid a community has which

would not be the case were intelligent recourse had to the microscope. "Malaria" is unquestionably used as a substitute when no diagnosis is made. In all cases of fever extending over three or four days, it is very desirable to examine the blood for malaria plasmodium, which can be readily found either with or without staining after a little experience and more or less perseverance at times, if they are there. Failing to find the malarial germs a leukocytic count is next made, and if no leukocytiosis or a diminution in leukocyts is found, typhoid fever is strongly to be suspected, the diagnosis of which in 98 per cent. of the cases is determined by means of the Widal test. Thus by the end of the eighth or ninth day of the fever the diagnosis made by the symptoms is confirmed by the microscope.

Again a differential diagnosis between acute, general miliary tuberculosis and typhoid fever is to be made early by means of the Widal test.

In cases of appendicitis and other acute abdominal conditions, pus formation is preceded by a leucocytosis which is detected by means of a microscopic examination of the blood.

A differential diagnosis and prognosis of the essential anemias can only be made by the microscopic examination of the blood.

In all cases of headaches the blood should be examined for malaria, after all reneal complications are eliminated. Personally, if I may be pardoned for alluding to it, I recall one or two cases of headaches without any degree of periodicity and accompanied by a slight rise of temperature where the diagnosis of malaria was made and the patients entirely recovered after anti-malaria treatment.

Any case of cough extending over a few weeks the sputum should be examined for tubercle baccili, it sometimes being necessary to administer several doses of stimulating expectorants before the baccili are found. Thus a diagnosis of tuber-

culosis, to my own certain knowledge, has been made in several cases before the family ever suspected the real cause of the trouble. The patient being at this stage favorable for the arrest of the process.

Any suspicious secretions from the mucus surfaces should be carefully examined, especially in unsuspecting individuals, and Neiseler's baccilis found before the patient is subjected to the humiliation, if needs be, to be informed as to the true cause of his trouble.

An examination of the spinal fluid to my personal knowledge will aid in the prognosis of meningitis.

The diagnosis of hook worm can only be made positively after often repeated examinations of the faeces.

In all cases of Bright's disease the urine should be examined for casts so as to determine the form of nephritis and be able to intelligently treat and prognosticate.

No case of suspected itch can be positively diagnosed unless the mite is found.

Suspicious deposits in the throat should be immediately subjected to a microscopic examination as unquestionably cases of diphtheria are diagnosed very much earlier than otherwise, by waiting for the culture process; the antitoxine being administered several hours earlier than would otherwise have been the case.

Thus, in brief, I have outlined a few of the many invaluable uses to which the general practitioner can put his microscope.

PERSONAL EXPERIENCE IN THE TREATMENT OF PULMONARY TUBERCULOSIS.

BY EDWIN GLADMON, M.D., SOUTHERN PINES, N. C.

The subject of pulmonary tuberculosis is the old one of seed and soil: the soil must be suitable or the seed will not grow. In my humble way I have preached for years the doctrine that instead of hunting for something to kill the seed, we should endeavor to make the soil so sterile the seed can not thrive.

In the human organism it is not possible safely to introduce any germicide that is the equal of healthy blood. It is nature's own germ killer. But normal blood is only possible where there is normal digestion, and as this latter falls below par, so in equal ratio does the blood lose its germicidal properties, and leaves the body an easy prey for infection. Faulty digestion throws intoxicating substances in the blood and it then has troubles of its own.

I believe tuberculosis to be a disease of malnutrition; that means non-assimilation, and that means further that the food is not suited to the stomach, or the stomach is not suited to the food. Or it may be both.

The food does not suit the stomach when it is improper in character, imperfectly prepared, impure or adulterated. Or it may be imperfectly masticated, or too hastily eaten. The stomach may not be in a condition to receive the food because of disorders of secretion, motor insufficiency, neuroses, or other pathological changes. The cause may possibly be found entirely outside of the stomach. Whatever the cause the final condition is the formation of noxious substances, which are absorbed and produce a condition which is broadly covered by the term "auto-intoxication." The power of the blood as a germicide is therefore lowered in proportion as it is poisoned from within. It is like a war-

fare between nations where one has to fight a revolution at home.

What foods are suitable and what are not is too large a subject to be treated in the brief compass of this paper. But generally speaking, I am opposed to any rigid unvarying form of diet. The line of success is the line of least resistance, and that means a diet that accords as fully as possible with the patient's desires. The psychic element is an important one in digestion, and other things being equal, more perfect digestion results from a diet pleasing to the patient than one forced on him by arbitrary rules. In the absence of diarrhoea a mixed diet meets this indication better than one confined strictly to nitrogenous foods. It is not what a patient eats, but what he digests, that gives results. Nor should the meals be given too often. Modern methods of forced feeding agree with some, but with the large majority of patients I believe it to be a positive injury. Increase in weight in forced feeding is not an absolute sign of improvement in all cases.

There are but few cases of tuberculosis in which the stomach does not need treatment. Lavage, electricity, and massage are my stand-bys. Lavage may be needed every day and it may be needed but once a month, but it is a duty we owe our patients to keep their stomachs as free from slime, mucus and bile as possible, and to see that the gastric juice has always the requisite amount of hydrochloric acid with which to work.

Cleanliness of the intestinal tract is just as important as of the stomach and calls for colonic flushings and antiseptics. While the sulphocarbolates have no influence in tubercular diarrhoea, they are equal to any of the new synthetic compounds in controlling fermentation. Even in the last stages of phthisis the movements may be kept almost free from odor.

Lavage of the stomach I use in its broad sense and by it include the drinking of medicated waters.

I give one or two teaspoonfuls of listerine or borolyptol in water an hour before meals. This in many cases obviates the use of the stomach tube. I should observe that the statements in this paper have reference only to cases with fever: with at least a maximum of one degree. Just as long as this much fever persists just so long will the digestive tract need watching along the lines here stated.

The importance of cleanliness of the intestinal tract was especially noted in a patient now under treatment who last month had several attacks of urticaria, and each attack was accompanied with hemoptysis. The old-fashioned remedy of sulphur, salts, cream of tartar with listerine finally stopped both the hives and spitting of blood.

Where flushings have to be supplemented by medicine, mercury combined with a subphocarbolate is a favorite remedy with me. Minute doses of bismuth and ipecac add to its effectiveness. When fermenting masses are to be removed it is best to avoid the use, if possible, of salines. While in time they clean the intestinal tract, by their liquifying action, they make absorption of the poisons more easy. But when such a medicine has to be given phosphate of soda in a saturated solution gives me the best results. These remedies are especially indicated when patients come with a malarial history. It is hardly necessary now to argue against the use of creosote and cod liver oil in tubercular cases with weak digestion. They are both contra-indicated and I believe are now passing out of use except in selected cases.

From the use of these and a multitude of other digestive disturbers some physicians have gone to the other extreme, and are asserting that all that is necessary in this disease is to live and sleep out of doors.

Somewhere I have read that a shanty which sheltered a pig burnt down, and the taste of the roasted pig was so

delicious that in a short time the hillsides were aglow with burning shanties. One day some one discovered that a pig could be roasted without burning a house. Some day some one will discover that a tubercular patient can obtain rest without putting him in a tent, for to my mind almost the entire value of the so-called open-air treatment is the element of rest.

A man can not put any more water in his stomach if he drinks from a river than if he drinks from a glass; and a man can not get any more or any better air in his lungs breathing in the open air than he could in a properly ventilated room. And to me the vaunted claims for the so-called open-air cure of tuberculosis is the most extraordinary exhibition of therapeutic nihilism of modern times.

Just think of it, after twenty centuries of study and research, for members of the medical profession to say that the best way to fight the greatest plague that afflicts the human race is just to keep the patient out of doors. What an absurd confession of futility. But I know all members of the profession do not believe this and it will have less and less followers as the years go by. We can understand the marvelous improvement that follows when tubercular patients are taken out of slums, hovels and tenements and given a chance to breathe; but all tubercular patients do not live in tenements, and if impure air is the cause in all cases, then architects ought to go out of business and hide their heads in shame. If impure air is not the cause in all cases, why place all patients out of doors? Besides, tuberculosis prevails in countries where doors and windows are forever open.

The claim that life in the open air is all that is necessary to cure consumption is made to-day by men who a few years ago were going to eliminate tuberculosis from the list of man's ailments by the use of tuberculin and its congeners.

They failed. Patients persisted in dying contrary to all their laws why they should not die; and they have gone to the other extreme, and are now advocating a therapeutic iconoclasm abhorrent to the teachings of medicine, science, and of humanity.

Have faith in God, take milk and eggs, and keep out of doors. Faugh! What is this but a grand larceny of Christian Science humbuggery?

Mr. President, pulmonary tuberculosis is a disease protean in its forms and varied in its manifestations, and demands unceasing vigilance and unwearied care. We can not treat tubercular patients automatically like machines: we can not give them a number and have them follow inflexible rules. We must individualize, and each tubercular patient offers a separate and distinct problem for solution.

No two patients are exactly alike in cough, sleep, appetite, pain, digestion, pulse rate, or hemorrhage. Each indication must be met as it arises. Each patient must be treated without regard to the rules laid down for another, ever bearing in mind that the disease is one of the general system, and the lungs merely a local manifestation of it.

I agree with the most enthusiastic open-air advocate as to the importance of fresh air in this disease; no one disputes that. But I emphatically take issue with the statement that this is all that is needed. In the hands of experienced specialists the open-air cure will be prescribed only in cases where it is indicated, and the proper auxiliary treatment given. But its tremendous danger lies in the fact that it will be used without discrimination, and will surely be taken up by the laity as a self cure. We have in our town a so-called osteopath, without medical experience, who extensively advertises his open-air cures. I have read of more than one death from pneumonia by this system, and in my own town I have seen during the past two years patients placed in shacks

and tents die within one, two and three weeks after their arrival here.

I believe it the solemn duty of teachers of phthisio therapy to emphasize the importance of discrimination in selecting cases for out door treatment. Air like water is simple, but water can be used in this disease with dire and fatal results.

The fact that patients get well without other treatment than living and sleeping out of doors does not prove it the most valuable. I have seen visitors here, some with hemorrhages, take no treatment, fill up on corn whiskey, play cards half the night, and still recover.

Nutrition and rest—therein lie success.

Rest for the mind, rest for the body, rest for lungs and heart. Rest for the mind means that the physician should be counselor and friend as well, minimizing causes for worry and discouragement. Rest for the body means rest indoors or our; in a bed or in a hammock, as occasion may require. It means, too, abstinence from exhaustive tub and shower baths. Massage takes the place of exercise, and is an absolute necessity; hand baths of different kinds keep the skin functionating, and that too is a necessity. No patient with a hidebound skin ever recovered. Rest is especially important in hemorrhage. Ergot is not only useless, but positively harmful.

Rest for the heart means to have one beat do the work of two. All the resources at our command should be used to bring the pulse rate near to normal; for the prognosis, good or bad, may in most cases be judged from the pulse rate alone. Strychnine is an ideal tonic, but can not be given to all patients. It is contra-indicated in tachycardia and these people form the most troublesome class of patients. For them digitalis and bromides give best results. Aconite, veratrum, and gelseminum should be more widely used; I generally give them in conjunction with digitalis. Nitro-

glycerine, strophantus and caffeine all have indications in particular cases, and the question of heart tonics or heart sedatives is a most important one and should be carefully studied.

Rest for the lungs means rest from unnecessary cough. This must be controlled at all hazards. It requires also the abatement of pleurisy and neuralgic pains, because these cause accelerated breathing.

I do not hesitate to give opium or some similar drug to full effect when a patient first comes under treatment. It will not long be needed if the throat be cared for. The large majority of what I call unnecessary coughs are caused by abnormal conditions in the throat. Even where no growths or elongated uvulas are found, a patient with a hacking, continuous cough will have a mucous membrane congested. Here is where a local astringent yields marvelous results. I have tried many drugs, but the old-fashioned glycerite of tannin is as good as any. Swabbing with a probang is of no effect. I use a medium length polypus forceps which holds firmly a cotton mop, and this is rubbed in with some force over tonsils, pharynx, and posterior nares. In the latter place especially is often found the cause of cough, as a string of phlegm hangs from it, causing constant irritation. Albolene with menthol, chloretone and other drugs I use constantly.

A coarse spray, especially if used with force, will increase the irritation, but a fine spray gently applied coats the membrane with oil and the cough and irritation ceases. It is routine practice in our institution to oil a patient's throat as often as necessary to control cough, and when this is done very little medication is needed. Even in the last stages, when anaemia takes the place of congestion, the oil spray is still grateful and soothing.

With a little manipulation the spray can be thrown in the trachea and is thus indicated in some cases. Seiler's

tablets, Dobell's solution and like preparations should not be used in these cases. In fact, I do not think they are indicated in any kind of case, because we can do with oil all we can do with water, and there is no comparison as to results.

I will add, however, that local applications will not cure a throat unless the stomach is kept clean. This I have demonstrated over and over again. If results do not come then, look out for uric acid, and treat accordingly.

Pains in the pleural region generally yield readily to the static breeze or spark. If that is not at hand, positive galvanism gives equally good results. If neither can be used, small blisters about one inch square will give relief. Canthos is very effective and is besides convenient to use.

Finally, I repeat, we must look at the body as a whole, from the nares to the anus. We may find ulcerated teeth, a dilated stomach, a congested liver or spleen, or a contracted and spasmodic anal sphincter.

The nearer we approach to personal supervision of details the nearer we come to the ideal treatment.

Supervision of food, drink, clothing and exercise; supervision of the whole physical, mental and moral life of the patient. This would naturally limit the number of patients that could be treated by one physician, and that is precisely as it should be.

AN UNUSUAL CASE OF ECTOPIC GESTATION.

BY CHARLES Z. CANDLER, M.D., DILLSBORO, N. C.

My object in reporting this case is not so much to add anything new to the subject of ectopic pregnancy, but more on account of its comparative infrequency. In looking up the literature on the subject I have been unable to find anything that applies to the rupture of the sack into the bowel and escape of its contents by that route. I shall enter into the symptomatology of the condition only in so far as it applies to this particular case, as it is taken for granted that every one who does any amount of obstetrical work is familiar with all the manifestations of such a condition.

Mrs. B.—Age 45 years; mother of eleven children, all living, the youngest of which is four years of age. Nothing in past history of any importance except a miscarriage nine years ago. For past two years menses have been fairly regular and accompanied with slight pain at times. Two months prior to present illness the menses suddenly ceased, and, as she expressed it, thought she had been "caught up." Having occasion to leave home for a distance of about ten miles, she took advantage of a wagon in which to make the trip. The road being very rough and rocky, she was considerably shaken up, and, on returning home in the evening, she complained of slight pain in lower abdomen, but thought nothing of it, as she was accustomed to such attacks. During the night she became unwell, and by the following morning was suffering intensely, the pain becoming of a spasmodic character. She grew steadily worse, and I saw her in the afternoon of the same day. At this time she was in extreme pain, which radiated over entire abdominal surface, frequent vomiting, which was not preceded by nausea (projectile type); pulse 120, temperature 97, and marked depression. In fact, the picture was that of extreme shock.

On bimanual examination of the pelvic organs there was found a profuse bloody discharge, which contained considerable shreds and pieces of membrane (decidua), resembling more than anything to which I can compare it, the lining of an egg shell. The uterus was found to be enlarged and very sensitive. High up to the left and behind the cervix, which was widely dilated, could be outlined a distinct, pulsating mass about the size of an ordinary cocoanut. As a result of the extreme sensitiveness of all the pelvic organs, the tubes and ovaries could not be found.

I made a diagnosis of ectopic pregnancy with rupture of the sack into the peritoneal cavity and advised an immediate laparotomy. My friend, Doctor Colby, was called in consultation, who concurred in my opinion and we immediately began to make preparations to open the abdomen, but on account of the extreme shock she was in at the time we decided to postpone the operation until the following morning, it then being very late in the evening. But, our main object in waiting was the hope that she might rally from the shock, thereby better enabling her to go through the operation more successfully. Accordingly we administered gr. $\frac{1}{4}$ morphia and gr. 1-00 atropia hypodermically, which gave her some relief from the great pain. This was followed by the administration of strychnine, 1-30 gr. every three hours. She rested and was fairly comfortable for two or three hours, when the pain returned with all its severity. She was again given the opiate, but with very little result. About four o'clock in the morning the pains became more violent and cramp-like in character, the interval between them being so short that they appeared to be almost continuous. At this time she acted more like a woman in the last efforts to expel the foetal head through the perineum. There was a sudden cessation of the bearing down pain, as if she had succeeded in her task. At the same time there came a gush of liquid—not from the vagina—but from the

bowels. What had happened, God only knew, for we didn't. The amount of this liquid I am unable to estimate, for there must have been a considerable quantity lost in the mattress. A bedpan was placed under her, into which she passed about one pint of bloody looking liquid which resembled nothing other than amniotic fluid. Mixed with this were shreds of membrane and blood clots in abundance. In the course of an hour she again passed about the same quantity of fluid, in which we found unmistakable portions of placenta, together with what we took to be the remains of a six-weeks foetus.

During the week following she passed a small quantity of sanguineous flued per rectum, which gradually decreased until, at the end of ten days, it completely disappeared. From that date on her recovery was uninterrupted, and at the present writing she is enjoying excellent health.

The bibliography of ectopic gestation, to which I have access, is limited to standard works on gynecology, encyclopedia of practice and the medical journals. In none of these, containing articles on this subject, am I able to find reported a case in which the rupture took place into the rectum. Such an early rupture, too, seems to be of rare occurrence. These, gentlemen, are my reasons for presenting a report on this case.

TREATMENT OF PNEUMONIA.

BY LLOYD P. RUSSELL, M.D., FLETCHER, N. C.

As the harvest of this fatal disease has just past, hence I have chosen this subject. I shall not try to offer anything new in the treatment of Pneumonia, but only to point out the agents at our command that are most likely to carry us safely through. There is no specific as yet. The antitoxin is yet in the experimental stage, and we must be contented with the remedies that are within our grasp. Yet we hope in the near future that the laboratories will produce an antitoxin that will control pneumonia as we now do diphtheria. Such a remedy would be a God-send, as pneumonia is one of the most fatal diseases that we have to contend with, and the death rate is on the increase.

When called to see a patient suffering with pneumonia, the first thing I order is to have all the wearing apparel removed and a light gown put on, which should be open in front; this enables me to make my examinations without unnecessarily disturbing the patient. The patient should be in a light, well ventilated room, preferably an upstairs room. The bed should be smooth and no more cover used than is necessary. For too much bed clothing is a nuisance. The patient should be kept absolutely quiet. Not more than one or two persons in the room at one time.

I am a strong believer in elimination in the beginning of an attack of pneumonia. Get the bowels, kidneys, and skin acting well, and you have certainly got your patient in a more comfortable condition. I usually give my patient from three to ten grains of calomel combined with one-fourth to one grain of podophillin, being governed by the age and strength of the patient as to dosage. This is followed by a tablespoonful of sulphate of magnesia. If I do not get the

desired effect, I repeat in twenty-four hours. By this time we hope to have all eliminative organs acting well. The congestion is relieved and the patient is feeling more comfortable, and is better prepared to fight the battle which is now on him. The pain in the side is best relieved by hypodermic injection of one-fourth grain of morphia.

Then I order Cataplasma Kaoli applied hot, well over the affected area, both in front and behind, and I am sure that I have had some good results from antiphlogistine. It relieves the congestion of the lungs and enables our patient to breath better through the affected parts. The poultices should be renewed in twelve or twenty-four hours.

Next we must keep the temperature within the proper bounds, and our most trustworthy agent in hydrotherapy. I think the patient should have a tepid sponge bath every day. It keeps the pores of the skin open, lowers the temperature, and, if given at night, will have a tendency to produce sleep, which is very necessary to our patient.

If the temperature reaches 104 or 105, we should resort to the ice-cap; one should be applied to the head, and another to the stomach or affected side. Sometimes the cold pack to the affected side acts admirably well in relieving the pain.

I do not believe in the extreme cold bath, as it is quite an ordeal for our patient to stand, unnecessarily worrying our patient, taking the energy from him that we need to carry us over the crisis. And, it has been my experience, that after having used those extreme measures, the temperature will run higher when it returns than if we were to use a happy medium of hydrotherapy; example, the ice-cap.

The patient's mouth and teeth should be cared for, as the sordes will soon decompose and give the patient a very foul smelling breath and bad taste, and cause him to reject nourishment. Listerine, one-half strength, or carbolized water are both excellent mouth washes.

What shall we use for expectorants? Aromatic spts. ammonia, and syrp. senega, a. a. parts given in teaspoonful doses every four hours, has acted quite well with me.

To relieve the cough and produce rest, Dover's Powders given in five-grain doses act very well. Unfortunately it is apt to disturb the stomach, and opium checks the secretion of the body. So we should be very cautious in the treatment of pneumonia.

If the patient is extremely nervous, I think it by far better to use the bromide of soda, given in five-grain doses as indications require. The bromide should be given in the elixir lactopeptine, as it is much less liable to disturb the stomach in this way.

The digestive tract must be looked after; for this salol and elixir lactopeptine keeps it in excellent condition. I usually give two grains of salol in a teaspoonful elixir lactopeptine every four hours. If the tongue is dry and heavily coated, oil of turpentine acts quite well, given in six or eight drops doses every six hours. The diet should consist of liquids, milk being the best, sweet or butter milk. The animal broths are all right, but I find as a general rule that patients do not take them very well. Eggnog, or egg albumen, are usually borne very well.

We should allow our patients plenty of water, lemonade, or the carbonated waters, which are very useful, as they help to loosen the mucous that accumulates in the bronchi and makes it more easily expelled.

The next and most important is the heart, and this is, as you all know, our great danger in pneumonia. Strychnine is our best heart tonic. I usually start early in the disease with a one-fortieth grain given every four hours and increase the dose to one-thirtieth or even one-twentieth of a grain. I do not believe in too much alcohol, as the secondary effects are depressing, though I think an ounce or two of good brandy or whiskey is beneficial, given every four hours, al-

ternating the time of strychnine, by giving brandy between the strychnine. Its depressing effects are overcome by the strychnine.

If the pulse is very feeble, one or two pints of normal salt solution injected into the rectum acts very well.

Summing up the whole: first, eliminate your patient; get all the poisonous material in his system out; keep your temperature within the bounds; nourish your patient; keep him absolutely quiet and sustain your heart until the crisis has passed, and you have won the victory.

I shall not speak of the complications, as they are comparatively few, compared with the other acute diseases.

Gentlemen, I thank you all for the opportunity you have given me to read this paper.

THE CAUSE AND TREATMENT OF UNUNITED FRACTURES.

BY S. E. GREENEWOOD, M.D., FLETCHER, N. C.

The term ununited fractures is used to designate that class of fractures in which bony union has not taken place after the lapse of the period of time usually necessary for such repair. This period of time varies with the age of the injured and the character of the injury. It is not the intent of this paper to discuss any special fractures, but to speak in general terms of ununited fractures as they usually present themselves to the active practitioner. Let us notice briefly the time required for the different changes in the process of repair. These are set forth in the general rule of fractures:

From the first to the fifth day, inflammation.

From the fifth to the tenth day, comparative inactivity; inflammation subsides.

From the tenth to the twenty-first day, exudation of callus.

From the third to the eighth week, ossification.

If the mobility continues after this period the case is termed one of ununited fracture. The cause may either be general or local, or both. The local causes are failure of adjustment or improper adjustment of the fractures, failure of immobilization, disease of the bone, impaired circulation, and defective innervation. Of these the first is the more frequent cause. Not infrequently do the periosteum, muscles, tendons, nerves and arteries become engaged in the line of fracture. These, if allowed to remain, will prevent the proper apposition. Likewise the bone may be comminuted and a part of the bone may be lost, thereby leaving a space between the ends of the broken bone.

Again, the break may be of the mortis and tenon variety and render perfect apposition of simple fractures almost impossible. Compound fractures or fractures of bones lo-

cated just beneath the skin may be more easily reduced. Even oblique fractures may be difficult to reduce properly.

The cause next in frequency is the failure to immobilize the parts. It is sometimes difficult to prevent lateral motion in fractures near the ends of bones or in special regions, but the most difficult to immobilize is the oblique fracture surrounded by strong muscles which have received serious injury and keep up constant motion. Necrosis, rarification and similar conditions are other local causes for failure of union.

Rarification is a condition seldom found. When present, it usually follows serious injury to the blood supply of the bone or a former fracture of the same bone and within the first three years, the time usually necessary for the formation of new medullary and Haversian canals in the line of the old fracture. Defective innervation is another cause not frequently present. In this the origin may be centric or local or in the nerve track between these points. It is the writer's opinion that the two last named are extremely rare, if ever present. Impaired circulation is a cause more frequently found. This is especially true where the soft tissues are badly injured. The nutrient arteries may be, and often are, injured, but this is seldom the cause of failure of union. A more frequent cause is the pressure due to swelling and tight dressings. The general or constitutional causes of ununited fractures are much less frequent than the local causes. Constitutional conditions, however, do undoubtedly hinder or prevent union. Syphilis, pregnancy, rickets, osteomalacia, malnutrition and acute diseases are the most frequent of these. Syphilis does not necessarily prevent union. Fractures have united in every stage of this disease. Yet cases have been found in which the cause of delay or failure of union has been due to syphilis. Constitutional conditions more frequently interfere with union by the arrest of the reparative processes than otherwise. In all fractures there is hemorrhage from the surfaces of the broken bone and

from the injured soft tissues. This blood remains about the seat of the injury in all except compound fractures. Even in these some blood usually remains. A large quantity of blood does not necessarily prevent union. Much of the blood is absorbed, but some remains and is probably converted into callus. This reparative process may be suspended at any stage of its evolution. As a result of this we have cartilaginous or membraneous union, and pseudo-arthrosis.

Likewise constitutional disorders may break and destroy the union which has previously formed. Nature, however, does sometimes go to the other extreme and bridge over a considerable space, converting intervening muscles, tendons and organized blood clots into callus.

The treatment of ununited fractures depends upon the cause. If it be due to an acute disease, union will follow recovery from that disease. If to syphilis union will progress as the disease yields to the antisyphilitic treatment. If to pregnancy, repair may be expected to follow confinement. If to general debility, union may best be accomplished by the proper treatment of the constitutional disorder. If this treatment brings about union in a reasonable period of time, the case may be termed one of delayed union in contra-distinction to non-union, the term used to designate those fractures which do not yield so readily to treatment. It is not possible to determine the cause of failure of union in every fracture, or if it be general or local, without the use of the Roentgen ray. This will usually show the local cause, if one exists. Having determined the cause to be local in character, we should employ the simplest and safest treatment applicable to that particular case. Many devices and operations have been employed in the effort to obtain union in these cases. The history of these will not be given here. If the X-ray shows the ends of the bones in apposition, and

the primary treatment has been such as has been outlined above, the simplest procedure is to excite a local inflammation by irritation of the broken ends of bone. This may be accomplished by forcibly rubbing the ends of the bones together. If it is desirable to have a considerable degree of inflammation in the surrounding tissues this may best be produced by forcible flexion of the bones at the point of fracture. This procedure is, of course, inapplicable where there are two bones, the second being intact. It may not be admissible on account of important structures in close relation to the injury. If callus has been provided, but the evolution has been arrested before ossification, a milder irritation may be sufficient.

Striking upon the end of the extremity or placing some weight upon the limb is all that may be required in some cases. In employing this treatment care must be taken that the application be made only when the limb and bones are in proper alignment. After an acute inflammation has been established the treatment is the same as for recent fractures. If it is determined, however, that a considerable amount of membranous tissue is separating the broken ends, or if pseudo-arthrosis exists, operative treatment should be employed. Careful preparation should be made and thorough asepsis should be practiced in every detail. The ends of the broken bone should be exposed, all intervening substance removed, and the ends brought into close apposition. If the fracture be transverse, or nearly so, both broken surfaces should be thoroughly curetted. If the break be oblique or very irregular, resection of one or both ends should be done. End-to-end apposition with the normal relation of the medullary canal and outer plane should be secured if practicable. It is not necessary that the whole of the bone be thus apposed, but it is best to have as great surface as can be obtained without too great loss of bone. Many devices have

been employed to retain the position of the bone. Silk, chromicised catgut, silk-worm gut and silver wire may be employed for this purpose. Probably the best is the silver wire suture. One or more of these should be introduced in such manner as to hold the bones in perfect apposition. The hole for the wire may be made with any suitable bone drill and should not be placed too close to the end. The twisted end of the suture should be left close to the bone with the ends towards the bone rather than the soft tissues. No excessive quantity of blood should be permitted to remain in the wound. The periosteum should be brought together and the wound closed without drainage. The after-treatment of the limb should be the same as for the compound fracture. The time required for repair is greater than for the usual compound fracture.

CHOREA GRAVIDARUM WITH REPORT OF A CASE.

BY J. M. TEMPLETON, M.D., CARY, N. C.

Diseases that are commonest and those that are very rare are alike of interest to the physician. To the latter class belong cases of chorea complicating pregnancy, a condition that may confront the general practitioner at any time. This affection during pregnancy is characterized by the same symptoms that are presented in true chorea and the diagnosis may be as readily made.

It is seen oftenest in primipara, and those who have suffered from chorea in childhood are prone to have it return when they become pregnant, and the younger they are when pregnancy occurs the greater is the probability of their developing the disease. Except in pregnancy chorea rarely ever develops in the adult. The etiology of this disease is not clear; some authorities attribute it to rheumatism, or a rheumatic taint, others claim, and I think correctly, that its resemblance to eclampsia points to some underlying cause that produces puerperal convulsions and the pernicious vomiting of pregnancy. Postmortem examination shows the motor cortex, intellectual centers and spinal cord to be affected. Chorea usually begins about the time foetal movements are felt, and this may be the exciting cause that so frequently produces it at this stage of child bearing, though fright, emotion, lowered vitality and toxemia from any cause predispose to it. It is sometimes unilateral throughout an attack, but oftener begins on one side, extends and becomes general. Gower reports 11 out of 64 cases on the right side and 13 out of 64 on the left side. Severe cases are marked by violent movement, insomia, interference with deglutition, involuntary passage of feces and urine, and sometimes acute monia and paralysis. Lesions of the heart or other organs

increase the gravity of cases and make even light attacks dangerous. The disease with which it is most likely to be confounded is hysteria, and as it occurs mostly in neurotic subjects prone to nervous manifestations, it may require some care to differentiate them. In true chorea the movements are irregular and spasmodically increased by motion and voluntary effort, while hysterical movements are sudden, isolated and often rymthmical. Pregnancy is interrupted in probably one-half the cases, and the death rate to mothers is high. As to treatment, emptying the uterus may be necessary in intractable cases; rest in bed, as movement intensifies the disease, is desirable; diet, hygiene and sanitation should, of course, be looked after and the elimination of the patient receive marked attention. Of drugs there are in this as in most other diseases, no specifics; bromide, the coal tar derivatives, opium and other narcotics and sedatives are indicated to control the symptoms. Arsenic, iron, quinine, strychnia and other tonics and alteratives are useful in the management of such cases. The only case that has come under my care was treated some three years ago.

She was 23 years old, and in the second month of her second pregnancy, up to the time chorea developed, she had been in fair health, though she came of a neurotic family, her mother's mind being weak, one brother an idiot, a sister an epileptic, while a cousin had "spells" that were probably epileptic, and a maternal uncle had died in the asylum for insane. When I saw her some five hours after the attack began the choreic movements were general, involving both sides of the whole body, and I was impressed with the marked severity in the abdominal muscles. She was complaining of severe pain in the head and back and much soreness of the muscles; her temperature was elevated about one degree. I had her put to bed, gave her 15 grains of bromide of potash and a hypodermic of morphia. This had a quieting

effect, and I directed the bromide to be repeated every hour until bedtime, when she was to have ten grains each of calomel and Dovers' powder, to be followed by a saline next morning. Next morning the chorea returned, but was controlled by morphia until evening, when she had another attack, relieved in the same way. I put her on arsenic, increasing rapidly to tolerance, and also small doses of quinine, the sedative and narcotics to be used as sparingly as possible and the emunctories stimulated highly. At the end of a week she was much improved, but not entirely free from the trouble. Continuing the tonics and eliminants, I then put her on exalgine, 30 grains per day, which, reinforced by an occasional dose of bromide, enabled me to discharge her about one month after the disease appeared. I directed her to take her tonic at intervals, keep her secretions in good condition and, as she was still very nervous, use the sedative occasionally. She did well until September 2, when the chorea returned as severe as the beginning. Treatment was only partially successful, and about ten days after the trouble returned. I dilated the os, and a few hours later delivered her of a boy. The disease disappeared almost at once, and she has since borne a child with no return of the chorea.

THE MOIST SURGICAL DRESSING.

BY B. R. GRAHAM, M.D., WALLACE, N. C.

In considering the advantages of the moist surgical dressing, it may be stated in the outset that in the treatment of comparatively small and simple wounds, such as the ligation of arteries in continuity, in herniotomy or in the extirpation of small tumors; wounds which we can reasonably assume are steril, we may hermetically close by dry dressings with the almost universal assurance of primary union. But in the treatment of the vast majority of wounds presented to the surgeon, we find the conditions very different. The wound is either already suppurating, or, if of recent origin, is covered with dirt, coal dust or oil, and sometimes with various materials for the control of hemorrhage. It is in this class of wounds that the moist dressing finds its special adaption.

Of the various materials used for dressings, gauze or cheese cloth, first selected by Lister himself, has remained the most highly prized and most universally used.

To answer the requirements of modern surgery, dressing materials must possess the following qualities:

(1) They must be absorbent to a high degree.

(2) They must be protective and non-irritative.

(3) They must be antiseptic.

(4) They must possess the quality of remaining aseptic even if saturated with discharges.

(5) Facility of application and of removal.

In the light of these requirements, let us briefly consider the relative merits of the two forms of dressings: the moist and dry.

We were formerly taught that we should exclude moisture from our dressings chiefly because moisture was thought to

furnish more favorable conditions for the development of the germs of inflammation. But experience has taught that these strenuous organisms are not so easily conquered, and further, that one of the most efficient means of combating their invasion is by free drainage.

Drainage from the earliest days of surgery has been insisted upon as one of the chief factors of controlling inflammatory and suppurative processes, and naturally those dressings which promote free drainage are manifestly superior to those which more or less retard it. We have all seen the dry dressings become clogged with blood and other exudate and no longer afford drainage, allowing the wound to be bathed in pus, which can not easily escape.

When we have to deal with suppurating wounds of this character, with secretions which are thick and viscid and often containing considerable masses of decomposing detritus and slough, it is evident that evaporation and inspissation become a drawback. As soon as evaporation leads to crusting, the discharges become sealed, and retention with all of its harmful consequences results. This condition is manifestly impossible with the moist dressing.

In considering the next quality which the ideal dressing should possess, that of non-irritability, we find the moist dressing far superior to the dry.

A dressing which is at all times soft and pliant and capable of adapting itself to the contour of the tender structures without friction, and one which never affords mechanical irritation by dried and hardened discharges, is much to be preferred to one not possessing these qualities.

Granting that all dressings are aseptic, we are chiefly concerned with the best method of maintaining this asepsis even when saturated with discharges. It is clearly evident that an aseptic dressing saturated with an efficient antiseptic theoretically and practically fulfills this requirement.

In the matter of removal we find the moist dressing again superior to the dry. The dry dressing of iodoform gauze becomes tightly adherent and almost impervious to water, and it is with difficulty softened and removed. These conditions are entirely obviated by the moist dressing.

The antiseptic solutions used to moisten the dressings may be varied to meet the fancies of the surgeon. For all practical purposes a saturated solution of boric acid in steril water or a solution containing equal parts of above and grain alcohol, are as effective as any and are to be recommended in questions of economy. The dressing may be protected and evaporation prevented by oil silk, or equally as well and more cheaply by oil paper.

In the treatment of the majority of wounds the application of the moist dressing, prevention of evaporation by impervious coverings, the frequent change of dressings, accompanied by a thorough cleansing of the wound, represents the order to be followed.

"TUBERCULOSIS OF THE HIP-JOINT."

BY E. C. M'EACHERN, M.D , CORDOVA, N. C.

This occurs mostly in children, but may arise in adults—occasionally in those of advanced years; 6 per cent of cases arise in children under ten years; 8 per cent of cases occur before the twentieth year.

The primary lesion may be in the synovial membrane, but is more often in the bone. It may begin in either the femur or acetabulum. If it begins in the femur, it usually arises on the distal side of the epiphyseal cartilage. When the synovial membrane becomes involved it spreads rapidly through the joint. Traumatis and cold are predisposing causes.

Diagnosis is easy in advanced cases, but difficult in incipient cases. It may be confounded with caries of spine, in which an abscess has formed, with sarcroiliac disease, with infantile paralysis with lordosis, due to rickets, and with gluteal abscess. In caries of spine there is no altered position of the limb. And in sarcroiliac disease movements of the hip joint are unlimited and cause no pain. In infantile paralysis there is no pain, but paralysis, and a great and rapid waste of muscles. In lordosis from rickets there is no pain on movement.

In gluteal abscess the symptoms do not remit as in early hip joint disease, and pain is felt in back of hip and knee.

Fluctuation also can be detected. Symptoms: Some divide the disease into three stages—first, the stage of deposition and multiplication; second, the stage of caseation; others contend such division undesirable from both a clinical and pathological point of view. Wilson says: "Tubercular bone and joint disease should be considered as the primary invasion, and all other symptoms should be regarded as results and not a necessary part of the trouble."

The symptoms are slight and may be overlooked. They occur in the following order: Limited motion when child first arises in the morning, night terrors; a slight limp and some pain may occur in the hip on tapping the sole of the foot while patient is recumbent with leg extended. As the disease progresses, the child limps, the adductor muscles are rigid, the hip is broadened and fluctuation may be detected. The thigh muscles atrophy, and there is deformity, with apparent lengthening or real shortening. The pelvis tilts forward, which is due to the pelvis moving the femur as if ankylosed. This disappears on flexing the limb.

The gluteal muscles begin to waste and pain in the knee is noted. Changes occur in the gluteal fold and there is heat and swelling.

If a cure follows an advanced coxalgia, ankylosis occurs.

Death may be due to septicaemia, tuberculosis of viscera, exhaustion of liver or kidney.

Prognosis.—If disease is seen early the chances of cure are excellent in children.

The longer the duration and older the patient the more unfavorable the prognosis.

Hip joint disease may recur years after an apparent cure.

Treatment.—The incipient stage demands rest, sunlight, fresh air and good food. Direct exposure to rays of sun is beneficial. Tent life in open pine forest can be successfully employed in summer. The concentration of the sun's rays by lenses, as suggested by Butler, Finsen and others, is of great benefit. The Roentgen Rays have an inhibitory power on tubercle bacilli also. In cases where abscesses are present they should be evacuated immediately. If the head of the bone is separated from the neck it should be removed. The acetabulum, if diseased, should be thoroughly curetted and washed out with some antiseptis solution. The joint should be filed with an emulsion of glycerine and iodoform, 10 per cent.

The patient should then be put to bed on a hard mattress, with extension in the line of deformity and traction above knee, in children under ten years of age amounting to three to five pounds. In children ten to twenty years of age use a weight of from five to eight pounds. Always use a cradle to hold up the bed-clothes from the limb.

Day by day the limb should be lowered until deformity is overcome.

If symptoms recur the weight is re-applied. If they do not apply a traction splint, put a high-heeled shoe on the sound limb and send the patient out on crutches. The Thomas splint may be used or Wyeths' apparatus, which is a favorite with American surgeons. If the limb is in good position by weight extension, plaster of Paris is a useful dressing. It is put on from the toes up and includes the entire extremity, and also the pelvis.

"No case of hip-joint disease," says Phelps, "need recover with angular deformity," and to attain this end steps should be taken at the beginning of treatment to place the limbs exactly parallel. In lordosis from thigh flexion raise the limb until the iliac spine is straight. If the spine is depressed on the affected side abduct the limb. If the spine is elevated abduct the limb until the spines are horizontal. Extension will remove flexion in two weeks in a recent case, and in the course of some months in an older case. Abduction demands no special treatment. In a movable case it will disappear, and in an anklosed joint it is an advantage, compensating by apparent lengthening for shortening, due to bone absorption or to stunted growth of the limb. Adduction requires an addition of several pounds to the extension weight, the use of the long splint on the sound limb, and the drawing up of the sound limb by a rope and pulley towards the head of the bed.

In old cases where the weight will not bring about the extension, anesthetize the patient, gently straighten the limb a

little and re-apply the weight. Extension in a mild case should be continued for three months after symptoms have disappeared, and in a severe case the period must be at least six months. In cases where abscess appears externally a free incision should be made and cavity curetted and closed up. Unless all the diseased tissue can be removed there is no need of curetting. Puncture, wash out and drain. If it is found on cutting down to a joint that it is extensively diseased, excision may be necessary. After excision or after the abscess has been thoroughly curetted the joint should be injected with pure carbolic acid, which is allowed to remain two or three minutes, after which the acid is washed out with pure alcohol.

A drainage tube as large as the wound will take is inserted into bottom of wound and packing is done through it. It holds soft parts away from bone and allows it to granulate up until the tube is pushed out, when a smaller one can be used. Abscesses pointing in scarpas triangle should never be opened at that point. An incision should be made along the femur, just below the great trochanter. This gives surgeons better opportunity for digital exploration, and there is better drainage on account of child lying on its back twelve out of twenty-four hours.

Excision is to be performed when the head of femur is detached; when profuse suppuration continues for a long time, and when amyloid disease begins. When excision fails to check the disease and when patient has not recuperative power to stand long siege following excision, Mash says "Amputate." This has become a successful procedure.

OBSTRUCTIONS TO THE UPPER RESPIRATORY TRACT.

BY H. H. BRIGGS. M.D., ASHEVILLE, N. C

The functions of the nose and naso-pharynx are to filter, moisten and modify the temperature of the inspired air. The air of the frozen north and of the torrid desert is tempered by the same mucous membrane to nearly the body temperature. It is important that this change of temperature take place in the upper respiratory tract rather than in the bronchial and air vescicles, which latter necessarily occurs when there is nasal or naso-pharyngeal obstruction, with the resulting mouth-breathing.

The vibrissae at the vestibule act as a filter, removing from the air particles of dust and bacteria, and the greater number of foreign substances which pass these sentinels are caught on the undulatory surface of the moist schneiderian membrane, against which the whirling current of air carries them. In mouth-breathing this sifting and filtrating process is but feebly carried on, and the sputa of such unfortunates are daily impregnated with black deposits of foreign matter.

About sixteen ounces of fluid is secreted from the nasal mucous membrane in twenty-four hours, and utilized in respiration. Saturating the inspired air with this aqueous vapor is not so much a necessary preparation of the air for osmotic purposes, *per se,* as perhaps an economic factor; for the increased temperature, which necessarily results, renders the inspired air more hygroscopic, and the saturation which is not effected in the upper respiratory tract, is furnished in the lower respiratory tract, which is poorly supplied with secretory glands. This accounts for the dry catarrhal condition of the trachea and bronchi of mouth-breathers.

Aside from the foregoing effect upon the physical properties of the inspired air there is another, and perhaps more important, and one which has never, so far as I know, been thoroughly investigated, viz., the change in the atmospheric

pressure of the inspired and expired air in those who with difficulty breathe through a stenosed upper respiratory tract. This stenosed nasal breathing occurs in most cases of obstruction unless of too great degree. Children, as a rule, practice mouth-breathing with an amount of obstruction with which an adult would attempt nasal breathing, or at least alternate between the two. This is due to the fact that the latter keeps the secretions which accompany most obstructions cleared away, while the former do not, and the mucus augments the obstruction.

There is normally a slight variation of the air pressure on inhalation and exhalation, in the lower respiratory tract, due to the resistance of the air passages and to the narrowness of the same through which the tidal air must pass in so short an interval of time. This amounts to about 1 mm. of Hg. negative pressure, on inhilation, and about twice as much positive pressure on exhalation; the difference due principally to the elasticity of the lung aiding the expiration. Aron found, in a case of tracheal fistula, a negative pressure of two to six mm, and from 0.7 to 7 mm. of positive pressure. If forced respiration be practiced with the mouth and one nostril closed, the negative pressure may be as great as from 36 to 74 mm., and as much as 82 to 100 mm. positive pressure. In nasal and naso-pharyngeal stenosis, from hypertrophies, deflections, spurs, adenoid growths and tonsillar enlargements, nasal breathing is carried on by a special effort, resulting in varying degrees of pressure, positive and negative, on exhalation and inhalation, respectively, in proportion to the extent of the stenosis and to the respiratory effort produced.

The atmospheric pressure within the bronchi varies, instead of 3 mm., as in normal breathing, through a normal tract, anywhere from 3 mm. up to 144 mm., owing to the respiratory effort. This great difference in pressure in the alveoli and air cells, producing, as it were, pressure or suc-

tion alternately on the delicate endothelial lining and capillaries, seems sufficient to effect pathological changes which might interfere with the normal exchange of gases. Ballenger, in '96, confined guinea-pigs in an atmosphere laden with Ag. No3 and starch, and found in a short time that the endothelial lining of the air cells had increased from one to five or seven layers, caused, no doubt, by the alternate increase and diminution of the pneumatic pressure within the cell, resulting from the nasal stenosis induced by the starch. May it not be possible that there is an hypertrophy of the lining membrane of air cells in subjects affected by stenosis of the nose or nasopharynx, modifying the osmosis, and hindering the elimination of carbon dioxide? The above seems the more tenable if we consider the hyperthropic changes in the eustachian tube and middle ear, resulting from nasal and naso-pharyngeal obstruction.

Another evil result of upper respiratory obstruction is that there is an insufficient amount of air respired. It may be argued that if the patient can not get enough air through the nostrils he will resort to mouth breathing, which he will, substituting one evil for another; but as above stated, the adult especially, breathes through the nose when possible, even if he must occasionally augment the latter with a long breath through the mouth. Normal respiration must take place at certain intervals, and any decided increase in the number of respirations per minute, or of the respiratory effort, entails fatigue. In case of obstruction the subject must increase either the rate of respiration or the effort, or both; or receive a limited quantity of air. The compromise is usually at the expense of the oxygen, which is as important to the economy as is food.

The effect of nasal stenosis, adenoids and tonsillar enlargement on the middle ear and eustachian tube is often overlooked. Seventy per cent of aural diseases are due to pathological conditions in the nose and naso-pharynx, and in my

opinion seventy-five per cent of these result directly from obstructions. An eminent aurist has said that if the rhinologists would do their duty and attend to the nose and naso-pharynx of the children of to-day, the aurists would have nothing to do in the next generation.

It is due to an hyperthropied turbinate, a deflected septum, or adenoids, that infected mucus lying in the naso-pharynx is blown into the middle ear or perhaps into the mastoid antrum, by an attempt to blow the nose. The indiscriminate use of the Politzer bag in patients having a muco-purulent discharge from adenoids is the cause of many cases of middle ear and mastoid infection. In a similar way the other accessory sinuses frequently become empyemic. It is impossible to perceptibly improve the hearing in cases of catarrhal deafness until the nose and naso-pharynx are rendered perfectly patent. This alone constitutes the greater part of the effective treatment.

In children post-nasal adenoids are the most common cause of obstruction in the upper respiratory tract. There is no benign pathological growth more dangerous to the patient than this. Next in order of relative danger are the tonsils, and lastly, in adults, the nasal obstructions.

The vacant stare, listlessness, nervousness, open mouth, nasal voice and pigeon chest combine in a characteristic clinical picture familiar to all. That this condition usually accompanies the backward child in our public schools, the feeble-minded and the idiot, can not be denied, and it is a foregone conclusion that these obstructive growths, by pressure and accompanying secretions, are often a cause of auto-intoxication. Schwalbe and Retzius were able to inject the lymphatics of the nasal mucous membrane through the arachnoid space. An intimate relationship exists between the venous spaces of the nose and the interior of the skull. General toxaemia often follows the cauterization of the nasal mucous membrane. Diphtheria, tonsillitis and scarlet fever

afford excellent opportunities of observing the rapid toxicity to the general system through the lymphatics of these parts. Chronic cervical adenitis usually complicates adenoids and enlarged tonsils. The defective drainage of the nose, naso and ore-pharynx, and pressure, causing swelling and stasis in the venous and lymphatic channels, with the consequent large percentage of carbonic oxide in the blood and the products of auto-intoxication are amply sufficient to affect the brain functions.

At one time it was the custom in Providence, R. I., to place the backward children of the city in a special school. On examination of these children, 70 per cent had either obstruction to the upper respiratory tract or error of refraction, and the majority of these were able to return to the regular schools after treatment.

Enlargement of tonsils and adenoids—in fact of the lymphoid tissue forming the tonsillar ring—affords a pathological condition which offers an easy entrance for infection. It is probable that the specific germs of several diseases, notably acute rheumatism, scarlet fever, diphtheria and tuberculosis, gain entrance through these tissues. Tubercle bacilli are often found in tonsils where no tuberculosis can be found elsewhere in the body. Dieulafoy inoculated 60 guinea-pigs with tonsillar tissue, and 13 per cent died of tuberculosis, and of 35 inoculated with adenoid tissue 20 per cent died of the same. No tuberculosis was found in any of those from whom the tissue was taken. These results were confirmed by Lermoyez, Brindle and Gottstein, and lead to the inference that these tissues, enlarged, are often the port of entry of the tubercle bacillus.

In the treatment of pulmonary tuberculosis and other wasting diseases, where oxygenation of the blood and elimination of products of decomposition are of prime importance, the first and essential consideration is an upper respiratory tract ample in patency and free from obstructions and catarrhal secretions.

RESULTS OF GONORRHEAL INFECTION IN THE FEMALE.

BY H. B. WEAVER, M.D., ASHEVILLE, N. C

The Census of 1900 shows that there are in the United States twenty-five millions of men over fifteen years of age, and about the same number of females. The ablest authorities, and the most conservative, on venereal diseases, estimate that of this vast male population, 80 per cent have been infected with the Gonococcus. Then, if 80 per cent of males have suffered and do suffer from specific gonorrheal infection, how many, oh! how many females are subjects of this baleful disease with its everlasting, perilous results?

The laity and a large minority of the medical profession have small conception of the insidious nature, the difficulty of cure and the serious consequences of gonorrhea. It is only in the last few years that the gravity of this disease has been fully realized in the manifest inflammatory results which follow in the wake of infection of the female pelvic organs.

The dictum, that it is a trivial affection; that it is not more "than a bad cold"; and can be cured in a week, and allowing those thus afflicted to marry, is responsible in a great measure for its prevalency and far-reaching results. After admitting the prevalency of gonorrhea, it is astonishing with what stolid indifference the medical profession still views this disease, the greatest destroyer of health and homes. A majority, doubtless, of the profession, still insist that of the serious and lasting effects of the two diseases,—gonorrhea and syphilis,—the latter far out-weighs the former. But facts and figures do not warrant this conclusion. Old Ricord said, "A clap begins and God only knows when and where it will end."

It is maintained by many prominent writers that gonorrhea is practically incurable. Lapthorne Smith thinks "that none are absolutely curable." Noble says he "regards it as a mat-

ter of great difficulty to positively eradicate gonorrhea in the female." Frederick says, "I have never seen one whom I felt sure was absolutely cured."

When we view these statements of men from different portions of the globe, whose experience and character render them entirely trustworthy, should we not begin at once to inquire, both from a medical and civic standpoint, what we shall do to *mitigate,* at least, the ravages of this disease?

One of the most fertile sources which accounts for the prevalence of gonorrhea, is its latency in the female organs. W. R. Pryor, writing on latent gonorrhea in women, says: "Of 197 prostitutes, the microscope being used, gonococci were found in 33 1-3 per cent in the cervix uteri; 120 women showed gonococci in the urethra; and after five months observation of 53 gonorrheic women, gonococci were found in the cervix of 75 per cent." Noeggerath long ago called attention to the pernicious influence of latent gonorrhea, when it was known often to produce vaginitis, endometritis, and salpingitis, soon after marriage, when the cause of the trouble was not suspected either by husband or wife. Hence, in observing the gonococcus from a bacteriologic viewpoint, we find that one of its most marked characteristics is its predatory and *invasive* nature, extending by continuity, as it does, along the mucous membranes from one organ to another, which nature, the traumatic and other non-specific inflammations do not possess. Not only does the gonocuccus possess the faculty of attacking the leucocytes, and with other pus organisms, produce a local infection, but, as is proven by Winn, there occurs *general gonococcal infection.* whose symptoms and lesions depend on absorption of a *toxin,* as well as direct infection of the gonococci itself .

Gonococcal infection has no special clinical features by which we may differentiate it from other pyemias, and the only positive diagnosis that can be made is by bacteriological

examination of the blood. Hence it is proven by microscopic findings that the gonococcus penetrates almost every tissue of the body, and as Peterson aptly remarks, "The closer we study the diseases of women" under the new light of bacteriology, the higher percentage of complications shall we find which are the direct results of specific infection.

Now what are some of the results of specific infection in the female? The gynecologist, perhaps, sees more of the serious and lasting effects of gonorrhea than the general practitioner. And I undertake to say, that, from my experience, I believe the ravages of gonorrhea in women are more severe and fatal than those of syphilis.

When we consider that the gonococcus is responsible for 80 per cent of all inflammatory diseases of the female pelvic organs; for practically all the pus tubes; for a large portion of local peritonitis; 40 per cent of all blindness; 50 per cent of sterility; for the despoilment of homes and happiness, then is it any wonder that we should assert that the sequels of gonorrhea are far more serious and fatal than syphilis?

Warren in his latest work (1902) says: "The chief complication and danger in gonorrhea in the female, is the infection of the uterus and the uterine appendages. Gonorrhea is the chief source of salpingitis and pelvic peritonitis and may cause general peritonitis." Byford says "a majority," Mann and Wathen believe "nearly all cases," of pelvic inflammations are traceable to gonococcal infection. Joseph Price declares "that in over 1,000 sections for pelvic suppuration, 90 per cent were traceable to gonorrheal infection, and that 90 per cent of these histories are reliable and clear." Coming as it does from such eminent authority, this is a remarkable statement, and speaks a volume in a word, and should claim our most serious attention.

Endometritis as a sequel is the most common and difficult disease to cure. And as Warren well says, "Patients often recover without known reason; but after apparent cure, the

disease will often recur." And why? Because the gonococci have buried themselves deep into the sub-mucous tissues beyond the reach of antiseptic germicidal medicines, where they hatch, as it were, new colonies, and *reinfect* by continuity, new tissue; and so the process is repeated until, many times, the infection reaches the Fallopean tubes and appendages, and no amount of treatment, by curcetage, local applications or otherwise, will avail in the cure. A woman may have endometritis, with purulent leucorrhea as a symptom, for many years, and yet in other respects be in perfect health, until the mixed infection reaches the tubes and she then has a pronounced salpingitis. Now salpingitis is practically a chronic disease, and as we have said is almost always of gonorrheal origin. The march of *gonorrheal salpingitis* is slow, and is preceded or accompanied by closure of the abdominal ostium, brought about by coaptation of the walls of the tubes and fimbriæ. Later on, the uterine end of the tube becomes closed by the exudate, pus accumulates in the tubes, producing a tumor—by distention—and we have a classical *pyosalpinx*. This condition, of course, can be relieved only by surgical interference. Notwithstanding the mutilation which necessarily follows the use of the knife, it is the only hope and means of a cure.

We could multiply cases illustrative of the pathology and treatment of these results, but the details of the same are found in our text-books; but the point I wish to stress is the *duty of the hour; the manifest duty of the family physician in this crisis. He is* the man behind the gun in this combat against the greatest scourge; and it is through and by him that relief must come. *Prophylaxis* is the watchword. It is a campaign of education. The people need instruction along these lines; they should be taught the means of prevention; we should impress both men and women with the gravity of the disease and the supreme importance of permanent cure before contracting the marriage state; for too many men are

permitted to marry with a latent gonorrhea and in a short time infect a poor, innocent wife.

In view of these facts, it is no small wonder that the American Medical Association, at a recent session, thought it of sufficient importance to appoint a committee to inquire whether and when a gonorrheic may be permitted to marry, and whether the matter is a proper one for regulation by statute.

In closing, considering the fact that twenty millions of men suffer from gonorrhea in the United States alone; that 80 per cent of inflammatory diseases of women; that 40 per cent of blindness; and 50 per cent of sterility are due primarily to gonorrheal infection; I say, is it asking too much of our committee on legislation to inquire into the feasibility of legislative enactment for the prevention of gonorrhea?

TEST DIET IN INTESTINAL DISEASES.

BY W. O. NESBET, M.D., CHARLOTTE, N. C.

Internal medices of to-day is concerned largely with the functional diagnosis of disease. Functional diagnostic methods as applied to diseases of the stomach have been reduced to a practical working basis within the past decade. In evolving these methods a definite rule has been followed of first finding the variations in function of the normal stomach under a selected test; having once discovered the normal, we have a gauge by which to measure the pathological. Applying these methods the pathological variations in the three chief functions of the stomach, namely, secretion, absorption, and motility in their various refinements have been worked out.

FUNCTIONAL DIAGNOSIS OF INTESTINAL DISEASES.

Functional methods as applied to diseases of the intestines have not kept pace with similar methods applied to diseases of the stomach. In fact, only within the past five years have we seen an occasional allusion in medical literature to an intestinal test diet. Recently there have been published by several observers the results of investigations in this field, and the foundation has been laid upon which may be reared a finished structure. These observers seeing the value of the test meal in examining the stomach function, it was reasoned that a test diet should be established for the study of the functions of the intestines. This test diet was first given to a series of healthy subjects, and their stools examined chemically, microscopically and macroscopically; thereby establishing a standard. Later, the diet was exhibited to a series of individuals with intestinal derangement, and the pathological variations in feces noted. It may be well to state that at first a chemical estimate was made of the fats, carbo-hy-

drates and the nitrogen output in the feces. This course was found impractical, owing to the great amount of time required to make the analysis. Adolf Schmidt, Strasberger, who were the leading investigators, and others, abandoned this chemic method and after much labor have given out the plan of examination of the feces of which it is the purpose of this paper to speak. In taking up the work it was agreed by these observers that a suitable diet should fulfill the following requirements:

1. The test diet must be so selected that it should be taken by healthy persons as well as by those suffering with intestinal disorders.

2. That the diet must be largely free from waste matter, but still contain enough to give the stimulus of ordinary food.

3. That the diet must be capable of supplying the minimum, at least, of nutrition (in calories) required by the body at rest.

4. That the diet must contain the three groups of food stuffs in proportionate relation to each other.

5. That the diet must be of simple composition, easily made and uniformly prepared.

SCHMIDT'S INTESTINAL TEST DIET.

The diet as given by Schmidt in each twenty-four hours is as follows:

In the A. M.—0.5 litre (01) of raw milk and 50 grms. (2 oz.) of Zweiback bread (ordinary bread will suffice). If milk will not agree give instead 0.5 litre (01) of cocoa made from 20 grms. (5 drams) of cocoa powder, 10 grms. (2½ drams) milk sugar; 400 grms. (12 oz.) of water and 100 grms. (3 oz.) of milk.

In Forenoon.—0.5 litre (1 pint) of oatmeal gruel (made from 40 grms. (1 oz.) of oatmeal, 10 grms. (2½ drams) of butter; 200 grms. (6½ oz.) milk; 300 grms. (10 oz.) water; 1 egg. Strain oatmeal before using.

At Noon.—125 grms. (4 oz.) chopped beef (raw weight), broiled rare, with 20 grms. (5 drams) butter, so that interior will remain raw; to this add 250 grms. ($\frac{1}{2}$ pint) of potato broth (made from 190 grms. (6 oz.) of mashed potatoes, 100 grms. (3 oz.) of milk with 15 grms (6 drams) of butter.

In P. M.—As in morning.

In Evening.—Same as in forenoon.

This diet thus consists for the twenty-four hours of: 3 pints of milk, 3 oz. bread, 2 eggs, 2 oz. butter, 4 ounces of beef, 6 ounces potato, and two pints of oatmeal gruel.

This test is generally given for three days, sometimes longer, and at any rate until stool is obtained, which comes with certainty from the diet. With normal evacuation power this occurs with the second defecation after beginning the diet.

The patient as a rule does not need to take a special powder in order to mark off the test diet stool from that of the former diet, for the test diet excrement can generally be recognized at once by its uniform consistency and its light color. When it is desired to mark off the beginning and ending of the test diet feces, administer at the beginning and ending of the test diet a wafter or capsule of 5 grain powdered carmine, which passes the canal unchanged and gives its characteristic red color to the corresponding feces. It is not claimed that this represents the only conceivable or only possible form of diet for functional examination of the intestine, but it is maintained that it has proven the most applicable one in the hands of these observers.

OBJECTIONS.

Some make the criticism that this diet is too difficult of preparation to be carried out except in hospital practice. It is answered that practically such is not the case, as patients generally appreciate a carefully ordered diet. Some criticise that it contains too much milk. In reply we would

say that only one pint of raw milk is given, and that the remaining two parts are given in combination with the food. Better diets may follow, still this is the most adaptable one thus far.

THE EXAMINATION OF THE TEST DIET FECES.

The next question in mind is how to proceed with the examination of the feces. It is claimed by the originators of this test diet plan that the proper examination of the feces, excepting the sublimate and fermentation tests, can be done in ten minutes; my experience is that it takes at least thirty minutes. In preparation for examination the feces are first thoroughly stirred with a wooden spatula and a small amount about the size of a walnut is placed in a glass mortar. In this it is ground up as fine as possible with the addition at first of a few C. C. and gradually more distilled water (until it is of fluid consistency). The grinding up must be done carefully, so that no cohering excrement particles remain. The ground up specimen of feces is then spread over a flat black plate or a large glass vessel in as thin layer as possible, and account is taken of all the elements that are recognizable by the naked eye. This method of grinding up it is claimed is the only correct and suitable one, and is to be preferred to the Boas method of washing it through sieves; this latter method is only of value when searching for gall stones and parasites. On inspection the normal stool when spread out as detailed above should be smooth and show only a few brown points, which are the remains of the oatmeal husks. Pathologically we will find mucus in large and small flakes, remains of connective tissue and tendons from the chopped meat eaten, remains also of muscular tissue, potato remains and large crystals of ammonia magnesium phosphate.

MICROSCOPICAL EXAMINATION.

This serves for the most part to complete the examination by the naked eye, three preparations on a glass slide are

made of the feces as originally stirred up; if it is too hard a little water is added; we next place a small portion respectively on either end and the middle of a slide. Without adding anything to it the first portion is crushed into a very fine layer with the cover glass. The second is stirred with a small drop of a 30 per cent solution of acetic acid and heated for a moment over the flames (until it begins to boil), and then covered with the cover glass. The third slide is rubbed up with a small drop of strong solution of iodo potassium iodide (I 1. K. I 2, H20 50). Normal feces examined in this way under the microscope will in the first specimen show a smooth detritus consisting of the smallest granules, globules, bacteria, isolated fragments of muscle fibre, isolated potato cells, remains of oatmeal gruel. In the second, or acetic acid preparation, which serves to melt all fat remains temporarily and thus to furnish a view of the entire fat contents, there is seen after cooling small flakes of fatty acid scattered over the entire preparation. If the preparation is again carefully heated over the flames and placed under microscope while still hot the small flakes of fatty acid are melted into drops, which congeal again as the preparation cools. Pathologically we will find in the unstained preparation fragments of muscle fibre in larger number of good state of preservation, needles of fatty acids and soaps and numerous groups of potato cells, and maybe parasite eggs. In the acetic acid preparation pathologically we find massive fatty acid flakes. In the iodine preparation blue colored remains of starch granules from the potato cells, blue or violet fungus spores and thread-like bacilli, yeast cells, which are colored by the iodine.

CHEMICAL EXAMINATION OF TEST DIET STOOLS.

In the chemical examination we need only consider the (1) reaction test, (2) sublimate test, (3) and fermentation test.

REACTION TEST.

For this only a strip of red and blue litmus is placed on (not in) the fecal matter, which has been ground up with distilled water. Normally the reaction is neutral or at least feebly acid or feebly alkaline.

SUBLIMATE TEST.

This test consists in placing some of the prepared feces in a glass filled with concentrated watery solution of $HGC1_2$," stirring it and letting it stand until next day. The normal feces is colored red by this (hydrobilrubin), and the more intensely red the fresher the stool. Particles colored green, even if microscopically small, are pathological and show the presence of unchanged bile pigment (bilirubin).

THE FERMENTATION TEST.

This test has been very essentially simplified as compared with the old fermentation test. For this from the first feces, which has been stirred up a small amount about the size of a small walnut is taken with one of the wooden spatulas and put in the lower vessel of Strasburger's fermentation tube. In hard stools less is taken. In soft stools, more; in liquid, the lower vessel is filled entirely. In this vessel the feces are stirred up with water and the rubber stopper is put on, care being taken to exclude air bubbles. The rubber stopper is taken from the tube "b" and the tube filled with water; this tube is then closed by putting on the stopper with the vessels connected with it—a (filled), c (empty); c has an opening on top and acts as an ascension pipe (steyrohr). Note is taken of how far the connecting tubes enter into the lumen of these vessels. When the apparatus is put together it is placed for twenty-four hours in an incubator heated to 37 degrees C. If gas is developed from specimen within this time this collects within tube "a," and a corresponding amount of water is forced into the ascension tube "c." The

height of the water in the ascension tube is noted, the vessel "a" is opened and the reaction of it is tested with litmus paper and compared with the reaction before the test was instituted.

Normally only a very little gas is formed in the incubator test, and the original litmus reaction of the feces undergoes no important change. If gas is developed to such an amount that one-third or more of the ascension pipe is filled with water then pathological conditions are involved, and, if at the same time, the reaction has become more distinctly acid, carbohydrate fermentation (the positive result of fermentation test) has occurred; if it has become distinctly more alkaline albumen putrefaction has occurred. Albumen putrefaction gives putrefactive odor. Carbohydrate fermentation gives butyric acid or rancid butter odor.

REPORT OF A CASE TREPHINED FOR EPILEPSY.

BY W. A. GRAHAM, M D., DURHAM, N. C.

Inasmuch as epilepsy in its various forms offers so little hope of permanent improvement, except in those cases which are amenable to surgical treatment, and, even traumatic cases are often disappointing in their post-operative history, I wish to report the following case:

J. P., colored, forty years old. Father died at seventy of "old age"; mother is living; no brothers or sisters. Has been strong and healthy with no serious illness except malarial fever fifteen years ago. No syphilis; gonorrhea fifteen years ago. In June, 1900, was struck with 3 by 3 scantling on left side of head, followed by unconsciousness and stupor for a period of four weeks, no fracture being discovered at the time of injury. When he recovered, he found a depression on line one inch above ear, beginning two inches behind ear and running back two inches, being about one inch wide. He went to work two months after injury and three and one-half months after injury had a convulsion. Second convulsion two months later. The frequency increased during the next eighteen months, convulsions occurring as often as once in two weeks when I first saw him in May, 1902. The convulsion began by twitching in the right eye; he "would see a moonshaped light"; right hand became numb, jerked and twitched, gradually extending up the arm and over the whole body, patient becoming unconscious, whole onset often taking ten to fifteen minutes and unconsciousness lasting from one to seven hours.

In June, 1902, the skull was trephined in center of depressed area, remainder being removed with Rongeur forceps. Dura was non-adherent, was opened and brain inspected; no abnormal appearance present. Dura was

stitched; skin closed, with cat-gut drain. Patient made a good recovery, and in the four years since operation has had three convulsions, December, 1902; June, 1903, December, 1905; none in eighteen months. He is at present well enough to work regularly, has gradually lost sexual power and desire, complains of slight fulness of head. There is evidently some adhesion between the scalp and dura, which may account for the full feeling.

Epilepsy following cranial injury arises from scars in soft coverings, a peripheral nerve being the starting point, from injuries of bone or dura, and actual brain injuries. Apparently the case was due to bone-depression, with little cortical change, and his recovery to the removal of the depressed bone before the permanent establishment of the epileptic habit. Although four years have lapsed since operation, it is not certain that he is cured, but at least there has been a great improvement. The loss of sexual power is probably not due to the brain injury, but to previous abuse.

MALPOSITION OF THE KIDNEY.

BY GUY L. HUNNER, M.D.,
Associate in Gynecology, Johns Hopkins University.

I trust I shall be pardoned if in the beginning of this paper I digress long enough to express my felicity on again being the guest of this ancient and most honorable Society. While a guest, I do not feel like a stranger. Your proverbial Old North State hospitality would preclude such feeling even if I had not made previous visits and had happy relations with many of your members.

Nor do I feel that apology is needed for bringing before you the consideration of this somewhat hackneyed subject. In meetings of this kind I think it most important to have new ideas disseminated, but feel that we may all profit in an exchange of ideas on some of the more familiar problems of everyday practice.

The subject of floating kidney has attracted much attention in recent years. Ten years ago it would have been almost as well to tell a patient she had a tumor on the brain as to inform her that she possessed a floating kidney. Now these patients come to us, having made the diagnosis themselves or having had the discovery made by some astute neighbor, and not infrequently a patient seems to take a deal of pride in such a possession.

Again we are asked by the laity why it is that so many women have movable kidney to-day, whereas it was not heard of in their day. We have to answer that, like appendicitis, it is probably no more frequent to-day than it was twenty years ago, but that it is being recognized when present, and that like appendicitis the malady is being recognized in its many phases. While a floating kidney, like a chronically inflamed appendix, may cause years of discomfort and ill health, yet we can not carry the comparison further, for the

floating kidney seldom threatens the patient's life, whereas, in the possession of a grumbling appendix, one may be considered as living over the crater of a quiescent volcano.

We discover floating kidney more frequently to-day because of the more general practice on the part of physicians of making a thorough examination of the patient, and experience has taught us much more about the mechanics of this malady than was known by our immediate predecessors.

For our knowledge of the entire subject we owe a great debt to the painstaking researches of Wolkow and Delitzin (Die Wanderiere, Ein Beitrag zur Pathologie des intraabdominalen Gleichgewichtes. Experimentell-anatomische Studien. Berlin, 1899). Two Russian observers who carefully analyzed the literature, made physiological, therapeutic, and clinical observations, and above all gave us the results of accurate anatomical studies on the cadaver, using dissections, measurements, and plaster casts. By anatomical studies they elaborated the theory first presented by Weisker, that movable kidney is largely dependent upon the body form.

The kidney normally lies in the paravertebral niche or so-called kidney space, a cylindrical cavity bounded above by the diaphragm; below by an imaginary plane, which about cuts the lower border of the ribs, and separates the kidney space from the abdominal cavity; dorsally by the posterior abdominal wall; mesially by the spinal column; and laterally by the ribs. This space varies from the cylindrical form because of the permanent or temporary encroachment of various organs and physical forces; as, for instance, the diaphragm above, the psoas and quadratus muscles dorsally, the liver and pancreas, and the various permanent or temporary changes in form of the spinal vertebrae and the ribs.

These paravertebral niches in the normal, well-formed individual are deep, and the kidneys find sufficient room, while

in persons with curvature of the spine or with contracture of the lower chest the deep cylindrical space may be converted into shallow funnel-formed space, resulting in a crowding out of the kidney.

Leaving for the moment further consideration of the influence of the body form in the pathology of the kidney, let us consider a few points regarding the normal anatomy and the factors tending to keep this organ in position. As is well known the right kidney normally lies on a lower level than the left, its lower pole often being cut by the plane of the lower costal margin. The normal mobility of the kidney is influenced chiefly by the movements of the diaphragm, and may have a range of from 2 to 5 centimeters. In men we can not, as a rule, palpate the kidneys; but in women the right kidney is nearly always palpable, and the left can be felt in many cases. Under movable kidney we class those cases which can be grasped but not pushed below the level of the navel. The kidneys with an extreme degree of mobility are classed as floating kidneys.

Important among the factors retaining the kidney in its normal position are its fascias. Immediately enclosing the organ is the fascia propia or fascia renalis. Outside of this and enclosing the perirenal fat are the prerenal and retrorenal facias, which may be together considered as one structure entirely surrounding the kidney and forming the most important part of its suspensory apparatus. This perirenal fascia has fibrous communication on the outside with the adrenal bodies and through to the diaphragm, also to the peritoneum and to the lumbar walls. From the inside of this capsule fibrous septa penetrate the capsula adiposa and join with the fascia propria. The fascial strands attached at either pole of the kidney are of considerable strength. In addition to the capsula adiposa the fatty tissue performs an important function in the kidney support through the

medium of the subperitoneal fat, which forms a large supporting pad in the lumbar region inferior to the kidney. That the peritoneum and its folds regional to the kidney have some influence on its position may be readily demonstrated during an abdominal operation, when the kidney can be displaced by pulling on the peritoneum in its neighborhood. The blood vessels join the kidney at right angles and probably have but little supporting influence until the kidney begins to be misplaced. Supernumerary vessels joining the kidney at either pole have a greater mechanical advantage as supporting structures.

The adrenal bodies are larger than the kidney during infancy, while in adult life they are relatively small, but as before mentioned, they have a dense fibrous connection with the upper pole of the kidney. The tail of the pancreas is sometimes attached to the left kidney through the medium of the peritoneum. That the normal intraabdominal pressure has an influence on the position of the kidney may be demonstrated at operations, when with this force removed the kidney is found to be far more movable than before the opening of the abdomen.

Returning to the consideration of body form as a factor in movable kidney we have many considerations leading to the conclusion that this is the most potent of all the influences determining the position of the kidney.

In the first place the occurrence of floating kidney in men is comparatively rare. This is a striking fact when we consider to how much greater degree men are subjected to violent muscular efforts, such as lifting, straining, and all sudden flexions and muscular efforts. On the theory of Volkow and Delitzin the differences in the two sexes is explained on the ground that in women the funnel-shaped kidney space favors a slight descensus of the kidney, and when it has once reached a level where its mid-portion corresponds with the

plane of the costal margin all violent exertions which cause an adduction of the lower ribs cause the kidney to be pushed downward. Poorly made corsets and tight waist bands have the same effect. If the kidney has descended only far enough to have its lower pole compressed by these factors, their action tends to force it upwards into its original position.

The influence of pregnancy on movable kidney has been greatly overrated. Careful observation has shown that from thirty to fifty per cent of movable kidneys occur in women who are not married or who have never been pregnant. In examining several hundred women with this point in view I was surprised to find in a hospital practice where many Russian Jews were admitted that floating kidney is comparatively rare in this class of women, although families of from five to fifteen children are not uncommon, and arduous physical labor has been their portion. In but one case have I been able to trace a definite relationship between pregnancy and symptoms referable to floating kidney. I saw this patient when her first child was three months of age and she was suffering with unmistakable symptoms of double floating kidney. The patient had a tendency to obesity and gave a history of rapid loss of weight following her child-birth. With the application of a snug abdominal binder the tenderness disappeared from her kidneys, she was relieved of her backache and tendency toward Dietl's crisis, and following an increase in body weight her kidneys remained in much better position.

The influence of trauma in the production of movable kidney has been ably discussed by Harris, of Chicago, (J. A. M. A., February 13, 1904). This subject occasionally has great significance in medico-legal cases. Harris's conclusions were that "severe injuries involving the kidney or perirenal tissues are seldom or never followed by movable

kidney," and "a movable kidney is never the immediate result of a single trauma."

Symptoms.—Most women with displaced kidneys have no symptoms referable to this condition, and in spite of the popularity to which this condition has attained, it is the duty of the physician on finding a movable kidney that is not producing symptoms, to refrain from imparting his discovery to the patient. On the other hand, it would carry us beyond the limits of this paper to discuss the many finite and indefinite symptoms occurring with this malady.

Probably the most common symptom is that of backache, usually occurring rather high in the lumbar region and on one or both sides. If the condition is confined to one kidney only, the patient often complains of being unable to sleep lying on the opposite side. Again the patient complains of feeling something slide out from beneath the costal margin as she turns to the opposite side, and not infrequently she discovers a movable and palpable lump in the side.

The train of symptoms may be of an indefinite character, the patient complaining of malaise, lassitude, a dragged out feeling, and inability to work. The symptoms may be of a distinctly nervous and mental type,—neurasthenia, hysteria, and hypochondriasis resulting.

Digestive disturbances are not uncommon. Dyspepsia, "bilious attacks," constipation, and mucous colitis being some of the immediate or secondary results of the movable kidney.

The patient may complain of irritable bladder, and a lumbar dysmenorrhea is not uncommon.

Perhaps the most definite and striking symptom, but fortunately one of comparatively rare occurrence, is that known as Dietl's crisis, in which the patient suffers an attack of sudden severe pain, accompanied by nausea, vomiting, chills, fever, and collapse. Dietl ascribed these attacks to a sudden twist of the renal vessels with strangulation of the kidney.

It is probable that some cases depend more upon a twist or kink of the ureter with damming back of the urine, for we not infrequently find a greater or less degree of dilated pelvis in these cases, showing a state of more or less chronic interference with the outflow of urine. Enlargement and tenderness of the kidney is usually demonstrable, and the urine often shows traces of blood during or after the attack. Hydronephrosis and haematuria, both of an intermittent character, have been described. Occasionally these crisis may occur in women who have the male type of thorax and in which the kidney is not freely movable and is palpated with some difficulty. These are the most difficult cases to differentiate from other intra-abdominal attacks of pain.

I have seen no reference in the literature to the occurrence of an aura preceding the attack. I have seen two or three patients whose attacks did not come on suddenly, but were preceded by slowly increasing discomfort in the side, and one of these patients had learned to ward off those of her attacks which threatened in the daytime by getting into the knee-chest posture.

Diagnosis.—After what has been said of the symptom-complex, it is scarcely necessary to say that in the diagnosis of symptoms due to movable kidney one must keep in mind affections of every other organ in the abdominal cavity. It is usually not difficult to determine the presence of a movable kidney, but to be able to say with precision that this mobility is causing symptoms is quite another matter. Diseases of the gall-bladder, of the vermiform appendix, and other diseases of the kidney are those abdominal conditions most likely to cause difficulties in diagnosis. Tuberculosis and other inflammatory affections of the kidneys are best discovered by an examination of the urine. To differentiate kidney or ureteral stone we depend upon the history of the disease, the urine examination, the X-ray, and the wax-

tipped bougie. Of most assistance in excluding gall-stone and appendicular disease are the history of the disease, palpation findings, examination of the urine, and particularly the use of the renal catheter. By means of this latter instrument we can inject the renal pelvis and cause a colic which will correspond with the previous pains in location and quality if they have been due to movable kidney. We can at the same time determine whether the kidney holds a normal or an increased amount of the injected fluid, and thus say whether a dilated pelvis is present.

Not all floating kidneys causing symptoms have a dilated pelvis, but on careful investigation we are finding this condition in a surprisingly large number of cases.

Treatment.—The embryonic and unsettled state of our knowledge concerning displaced kidney is nowhere better demonstrated than in the variety of opinions concerning its treatment. There are still a few writers who see many cases of movable kidney and urge the treatment of every case without surgical intervention. At the other extreme there are a few surgeons who may be classed as over-enthusiastic regarding the surgical treatment. Undoubtedly each of these classes represents a measure of truth and neither should be followed exclusively. If one would be successful in the treatment, he must be willing to make a careful study of the individual patient in order to properly differentiate between the medical and the surgical cases.

As emphasized above, our first duty is to learn whether the patient's symptoms are really referable to the movable kidney, or whether they may be ascribed to some other organ. I have seen patients with movable kidney and symptoms referable to the same, whose primary disease was in some other organ, as for instance, a pelvic organ trouble or a chronically inflamed appendix, the correction of which malady enabled the patient to regain her normal amount of fat and general

tissue tone, resulting in a return of the kidney to its normal relations. No doubt most of you have observed cases with marked anemia and movable kidneys causing symptoms in which treatment of the primary condition has resulted in a complete cure.

Every case should have a careful examination of the position and size of the stomach and of the position of the other abdominal organs, and almost every case should first have palliative treatment before deciding upon an operation.

Certain patients in whom we have determined that displaced kidney is at the bottom of their complaints become surgical cases at once. To this class belong those patients whose social conditions preclude a prolonged rest with hygienic, dietary, and medical treatment. Only a few of the cases with Dietl's crisis respond to the palliative treatment, and those in this class are therefore generally considered as surgical. Another class in which we obtain excellent surgical results includes the cases with severe digestive disturbances, and in which the kidneys are found on palpation to be extremely sensitive.

If you decide upon palliative measures and wish your patient to wear an abdominal binder, do not turn her over to the care of a druggist or an instrument dealer. A badly fitted abdominal support may easily do more harm than good. Do not try to fit every patient with the same style of binder. Your patients' body forms differ as greatly as do the necks and shoulders of the oxen, mules, and horses on your farm, and it is galling to attempt to encase them all in the same type of collar. Many a home-made binder does more good and less harm than some of the high priced belts tolerated by some patients, because they have no means of knowing the requirements of a proper bandage.

The properly applied supporter exerts its pressure about the lower half of the abdomen in an inward and upward

direction, and leaves the waist line free from compression. I use a variety of abdominal supporters, and get excellent results from a straight front corset made by a woman who has intelligence enough to vary the corset to suit the needs of the patient. I have but recently tried the strapping with adhesive plaster and am looking forward to satisfactory results with this method of supporting the abdomen in certain selected cases.

THE OPEN GAUZE METHOD OF ADMINISTERING ANAESTHETICS.

BY WILLIAM MONCURE, M D., RALEIGH, N. C.

We have all often heard the old adage, there is nothing new except that which has been forgotten. The subject of this short paper comes within the province of neither, as it is not exactly forgotten nor entirely new. This manner of administering an anaesthetic is increasing in popularity every day, as is demonstrated by the number of surgical clinics adopting it, and also its efficiency has been proven by its continued use in some of the largest and best-regulated clinics in this country.

It is not my purpose here to tire you with statistics or bibliographical references; but I will be content to repeat only one statement, made recently by the anaesthetist to Dr. Joseph Price's clinic in Philadelphia, viz., that, in three thousand anaesthetizations by the gauze method in said clinic, not once had the operation been interrupted on account of the condition of the patient.

The continuous drop has been used for a long time and various mechanical droppers have been devised, but it is the purpose of this paper to describe a drop-method with plain gauze for an inhaler and free from all mechanical incumbrances.

The method is applicable to any of the general anaesthetics, chloroform ethyl chloride and ether.

When chloroform and ethyl chloride are used, much wider mesh and fewer layers of gauze are essential, because they require considerably less of the anaesthetic and a larger proportion of admixed atmosphere (not oxygen alone).

The method is as follows: The gauze is folded into layers, from six to ten in thickness, according to the mesh. It is often overlooked to fold the gauze so that the edges are en-

tirely free from ravels, which cause considerable trouble and delay when allowed to enter the respiratory passages. The size of the gauze-pad should be about four by six inches. Ether should be dispensed in four ounce bottles. I find the thick, round bottle is most convenient. The patient's lips and nares are annointed with vaseline. The gauze pad, beginning with six to eight layers, is placed over the patient's mouth and nose, the centre of the gauze raised in the manner of a tent and held in this position with the thumb and index finger of the left hand. The patient is now instructed to breathe through the gauze several times in a natural way before the ether is added, in order to quiet his mind and to forcibly demonstrate to him the fact that the gauze will in no way interfere with the free access of air.

It is of considerable value in quieting the invariable nervousness of patients about to enter the anaesthetic state, to put them entirely at their ease as far as it is within the power of the anaesthetizer to accomplish, by giving them every assurance he possibly can of their safety from the anaesthetic. Caution them to keep their eyes closed, to breathe quietly and naturally, and state to them that the ether will be given slowly at first; and that, by breathing naturally and quietly, choking sensations will be avoided in a large measure. Words to this effect certainly go a long way in producing a quiet and unexcited first stage; and it is well to add, in this connection, that a simple piece of gauze over one's face is certainly more conducive to a quiet mind than the formidable mechanical apparatus or the cone sometimes used for anaesthesia. More especially is this so when the patient is the last of a series of anaesthesias and the respiratory waste-products of his more fortunate predecessors are still tenaceously clinging to the inhaler.

After the patient has been assured of the simplicity of the gauze and how easily it is to breathe through its mesh, the ether is dropped, one minim at a time, on the highest

point of the gauze. Some prefer a mechanical dropper; but there is no better instrument constructed for regulating the size and frequency of the drop than one's index finger. It has often been asked: "Does this not chill and benumb the finger to such a degree that it becomes useless as a dropper?" The answer is, to try it only once and you will soon find that the finger reacts from the primary numbness and becomes unusually warm, though not uncomfortably so.

The drops are gradually increased in frequency, never falling in the same spot twice in succession, but in rotation over the surface of the gauze directly above the mouth and nares.

It is preferable, to hold the gauze over the face in a way to prevent air from entering beneath the layers, thus forcing it to penetrate the mesh. This facilitates the evaporation of the ether and insures its thorough admixture with air. So the patient breathes with ease the ether-vapor diluted with air and does so without the usual coughing and struggling so often seen when he receives it in gulps, as it is indifferently poured into the various cones.

Many patients have a very marked increase in the flow of saliva; but this is easily taken care of so long as they are able to swallow. As soon as they get well under and swallow with difficulty, the saliva and secretions of the naso-pharynx trickle back into the larynx; and this is a frequent cause of the so-called "mucus in the throat." In this class of patients, as they are nearing complete anaesthesia, I have found it advantageous to insert well back into the mouth two strips of gauze, free of ravels, to absorb the excess of saliva and bring it out of the mouth by capillary action.

When the patient reaches the stage of excitement, the frequency of the drop is increased, but never to the point of saturating the gauze with ether—but rather, with ether-*vapor,* because the saturation of the gauze with any *liquid*

prevents the penetration of air through the mesh and also hinders the ether's complete evaporation. For this reason, when the gauze becomes wet with the water of evaporation and the secretions from the mouth, time is saved by replacing the wet gauze with a fresh, dry piece.

After the stage of excitement has passed, and the patient has become fully anaesthetized, the frequency and size of the drop are decreased. For the remainder of the anaesthesia, either is dropped as needed; and this takes much less for the same length of time than during the induction of anaesthesia.

The gauze is easily held in place, always with the left hand—the little finger behind the ramus of the jaw constantly holding this forward; the ring-finger on the facial artery; the index, middle finger and thumb holding the gauze-pad in position, while the patient's head is always turned to the right. The right hand holds the ether-bottle and the index-finger over the mouth of the bottle regulates the drop. While the right hand is not engaged in administering the ether, it is free to elicit the reflexes and pulse. Should one find that he is unable to use the finger as a dropper, a cork, with a groove cut on either side, will allow the entrance of air and the gradual escape of ether from the bottle. The gauze can at all times be easily and conveniently lifted to expose the eye for the reflexes, to observe the facial expression and the condition of the capillary circulation—especially of the face and ears.

Whenever it is necessary to operate on a patient in any of the positions other than flat of the back, the gauze can be held in place with greater ease than a cone or cumbersome apparatus. Thus, with all the reflexes—circulatory, respiratory, secretory and vaso-motor systems—always conveniently before the eye, dangerous symptoms can, in the majority of cases, be anticipated.

All stimulating drugs, when pushed beyond a certain point, become depressants; and this is true of ether. But

the open-gauze method affords a free admixture of oxygen, and the regulated drop insures the sustained stimulant effect of the ether and a better tolerance of it by the patient—two very important factors in diminishing the after-nausea and vomiting. The anaesthesia, also, in the vast majority of cases, runs a smoothe and even course, without the interruptions so annoying to the operator, and the patient at no time receives enough ether to be depressed by its excess, because he is constantly getting small quantities of nascent ether-*vapor* at frequent and regular intervals, which is not the case with other forms of inhalers. For this reason, the method has been aptly described as "the minimum amount in the minim fashion."

The method has to recommend it, and certainly of no little importance, cleanliness, cheapness and the fact that it is ever at hand on a moment's notice.

Dr. Lawrence E. Holmes alluded to the method before this Society on a former occasion in connection with post-operative nausea and vomiting, and whatever there may be of repetition here only lends emphasis to a very efficient, convenient and useful method at the hands of all and at all times.

NOTES ON PUERPERAL ECLAMPSIA.

BY W. C. FOLGER, M.D., DOBSON, N. C.

It has been said that "familiarity breeds contempt," and while I am reasonably familiar with eclampsia, I deny the contempt. In days gone by, when I was young in the business, I regarded eclampsia rather lightly, but larger experience has changed all this. I now regard it as one of the most formidable accidents to which the pregnant woman is liable.

There have been many definitions of eclampsia, all of which, with which I am familiar, are faulty in that they fail to say that it is dependent upon pregnancy for its cause. I think a good definition would be: convulsions occurring before, during, or after labor, and due to pregnancy.

We are told that eclampsia occurs once in about two hundred and fifty to three hundred cases of pregnancy, but I am satisfied this is far too small a percentage, as in my experience, it has occurred in about one per cent of all pregnancies.

As to the cause: Many writers have advanced many theories, all with more or less plausibility, and possibly, all with some truth in them. That the active cause is a poison circulating in the blood there can be little doubt. Whatever the specific poison may be the presence of the foetus in the body of the patient and in active connection with her, is the cause of all the trouble. This seems to be clearly proven by the fact that eclampsia never occurs till some time after the formation of the placenta, and almost invariably ceases with the birth or death of the child.

For fear that I become tedious and weary your patience, I will pass from theories, which are of little value to us, to the treatment. The treatment of eclampsia is twofold: that directed to the prevention and that directed against the

attack. While I would not decry the preventive treatment, still I think that directed against the attack is of more importance to the county practician for the reason that he is seldom called to the patient till she is in convulsions. I do not think it at all likely that you will make a mistake in diagnosis, certainly not if you see the patient have a convulsion. The first thing to do in the attack, if you happen to be young in the cause, is to go out and cool off, and while you are out think over the case and get your treatment outlined in your head. Then carry your treatment out and do not let the importunities of her husband or the suggestions of friends hurry you in the least. The treatment which I have found best is briefly stated: Veratrum, morphine, blood letting and purgatives. These are named in the order of their employment: First, gtt. x of Norwood Jr. veratrum alternated with one-fourth of a grain morphine sulphate hypodermatically, followed by the taking of 16 to 24 oz. of blood from the arm. The veratrum and morphine are repeated in 20 to 30 minutes and kept up at this interval till the pulse comes down to 60. When this has been accomplished you may feel reasonably safe, as it is extremely unlikely that your patient will have a convulsion with the pulse down to 60. If the pulse should go to 40, do not become alarmed, as it is only that much better for your patient. I have seen several with the pulse at 40 and they have all recovered.

At this stage, if it is possible without doing too much violence to the parts, the child should be delivered. But I do not think it ever justifiable, leastwise in country practice, where asepsis is unreliable, to slit up the cervix in order to deliver. Keep the pulse down and wait, and while you wait give a large dose of salts. Usually in from four to eight hours labor will come on and the child will be born without any more convulsions.

Now, in regard to preventive treatment: You will usually have abundance of time to look this up in your text-books.

The line of treatment I follow is briefly: Calomel, Epsom salts, citrate or acetate of potassium with digitatis, and the milk diet. I think all medication is secondary to the milk diet.

As illustrating all phases of eclampsia and its treatment, I wish to report this case:

Early on the morning of January 11, 1903, I was called to attend Mrs. P. in her first confinement at full term. The labor dragged slowly along and about noon she complained of headache and I gave her gr. xxxx chloral hydrate in two doses. About 2 o'clock she lay down and in a few moments exclaimed, "I am falling," and immediately went into convulsions. I gave her a hypodermic of Norwood x tr. veratrum gtt. x and morphine sulph. $\frac{1}{4}$ gr., both of which were repeated in half hour. I also bled her xvi. oz. Convulsions ceased after the second injection, pulse reduced to 40. Child delivered (dead) in about six hours. Mother made a good recovery.

In the fall of the same year she was found to be pregnant again, and upon the appearance of edema of the face and feet, with other symptoms of toxemia, she was placed upon the preventive treatment I have outlined above, and on 20th of January, 1904, I delivered her of a healthy child at full term. No convulsions and mother made a good recovery. April 24th, 1905, she being again pregnant and edema of the face and feet coming on, she was put upon the same treatment she had been before, which was kept up till August 30, when I delivered her of an apparently healthy child at full term. Five hours later she went into convulsions, which were treated as before. Result: She died that night, having had no convulsions in several hours. Child died in convulsions in about ten days.

And now in closing this rather scattering article, those lines of Burns come vividly to mind:

> "The best laid plans of mice and men,
> Gang aft aglee."

PNEUMONIA.

BY J. B. H. KNIGHT, M.D., WILLIAMSTON, N. C.

Gentlemen and Fellow Members of the North Carolina Medical Society:

I have chosen this old and well-worn subject for a paper with the hope that I may bring out a few points which may be of interest, and, perhaps, usefulness, to some of you. In doing so I shall perhaps disagree with some of the standard authors as to causes and treatment. I shall not follow any special author in my presentation of my remarks, but will be governed solely by my own observation and experience.

1st. I shall ask, What is pneumonia?

Worcester simply says it is an inflammation of the lungs.

Pneumonia is a disease of the lungs, the symptoms of which are fever, accompanied with pain, more or less acute, in the chest, which is aggravated by coughing or a deep, full inspiration, a quick hard pulse, with more or less difficulty in breathing, and a painful cough. But the symptoms are so widely different in different varieties of pneumonia that at this point I will attempt to differentiate between the varieties.

For convenience, I would name the following varieties: Croupous or interstitial pneumonia, or pneumonitis; and this may be subdivided into other varieties according to the position and extent, i. e., it may be unilateral or bilateral and may involve a whole lung or one or more lobes of the same, or even a part of one lobe; this, by some authors, is called lobar pneumonia. It may be either acute or chronic, but this variety is almost always acute.

2d. I would denominate catarrhal pneumonia. And this, like the other form, may be subdivided into acute or chronic, unilateral or bilateral, and may involve one or more lobes, or even a part of a lobe.

CAUSES.

There are various causes of pneumonia. But the most frequent one is exposure to cold or damp. The patient gets a good wetting or gets his feet wet, or through violent exercise gets his underclothes wet and afterwards, exposed to cold, gets chilled through, has a chill, followed by high fever and aching all over, soon finds himself suffering acute pain in the side, pulse becomes rapid, full and hard—a pneumonia has set in. This is the acute attack. Or he may have been suffering from malaria for several days and finally has a congestive chill, leaving him with one or both lungs congested, which if not relieved promptly soon becomes a pneumonia. Another frequent source for cause comes from kicking off the cover at night while dead asleep. This is why warm and unseasonable weather is considered so dangerous. This brings us to the point of the weather as a cause. Warm days and cool nights are a very frequent cause, or leads many to do the very thing which leads them to take acute colds, often causing pneumonia, dysentery and all forms of diarrhœal troubles.

I have seen a few cases of the acute variety caused by a bruised lung, either by a fall or a blow, or some external violence on the chest. As the treatment of this variety is so radically different from the catarrhal or other varieties, I will touch upon it here.

In this variety the pain is almost always acute, the fever high, the skin dry, and the pulse full and hard. Get your patient into a sweat as soon as possible. When the patient is a strong, robust one, I generally give him a good dose of acetanilid, quinine and acronite, but don't fail to open the bowels with a good dose of calomel, rhubarb and podophylin. A good recipe for one of these sthenic cases would be acetanilid and quinine each 1 dr., F. E. aconite 1 dr. Rad. M. xx. ft. capsules No. XX. Sig., one every two or three hours

according to temperature and pulse. Or if you prefer, give solution acetate ammonia oz. iij. Spts. nitre oz. j. F. E. aconite 1 dr. M. Sig., teaspoonful in water every two hours. Or these two recipes may be alternated every two hours. Use hot applications and counter-irritation externally over seat of the pain. I generally use Spts. turpentine on a hot flannel, rubbing it well several times a day if necessary. If the heart action is at all weak or unsteady, I combine F. E. nux vomica with the fever mixture. The aconite dilates the capillaries and slows the heart's action, while the nux steadies it. I find that the two act together admirably. I do not believe in giving opiates to these patients. You want to aid in clearing out from the air spaces the product of inflammation, instead of blocking it up in there, which the opiates certainly will do. Whenever I give opium in any form, except very rarely, a hypodermic of morphine for the acute pain, I usually give the F. E. opium camph. when the cough becomes excessive.

The catarrhal form of pneumonia is caused in much the same way as the acute or croupous varieties, only the symptoms are slower. The patient takes a cold from exposure to cold or damp. He has slight fever, perhaps, aches all over, has a general muscular soreness, develops a cough, the pain never acute, but the cough grows more and more aggravating, he soon begins to rattle in the chest and to spit up large quantities of yellowish white sputa, this sputa rarely ever streaked with blood as in the more acute variety. This form often starts out as a bronchitis and spreads from the bronchi to the smaller bronchial tubes and on to the bronchioles. So long as it is confined to the bronchi we are in the habit of calling it a bronchitis. When it goes further into the bronchioles we are apt to call it grippe, but let this inflammation spread just a little further and involve the air spaces to any extent and we have a catarrhal pneumonia. This variety is much

slower in its advent, and is also much slower in subsiding. This is the kind so apt to become chronic, and is the cause of a large number of those cases which we doctors put down in our insurance applications as acquired, or galloping consumption, the latter when it runs its course in three or four months.

The treatment in these cases varies very materially from the more acute cases. The fever is not generally so high, but when it is, should be treated in much the same way. Get the fever under as soon as possible in either case, for I think this is the key-note in the control of the disease. So long as the fever continues, so long is the disease liable to spread. The danger in this disease is in exactly the same proportion as the amount of tissue involved. Stop the spread as soon as possible, as one great danger lies in systemic poisoning from the absorption of the ptomaines generated from the destruction of tissue as a product of inflammation. It is well to keep all the excretory organs to the highest pitch—see that the skin, kidneys, liver and bowels are doing their full duty. The sputa in these cases is apt to be tough and stringy, and often the cough is out of proportion to the amount of matter expectorated. When this is the case I usually give the muriate of ammonia in 3 or 4 gr. doses, and generally combine syr. scilla and sometimes glycerine and F. E. opium camph. with nux vomica to tone up the heart and as an appetizer. I have grown to prefer the F. E. nux to strychnine. It seems to have better action for me. Contrary to the old practice, I allow my patients to drink freely of pure cold water. I believe the poison is largely thrown off by the kidneys, and they can not do their work without something to work with. A good mechanic is not much good without his tools—so the kidneys with nothing with which to work. Some of these asthenic cases are slow in reaching the third stage, or stage of resolution, and it

often becomes necessary to use blisters over the site of consolidation instead of the *counter irritant.* In some cases I use hot poultices with turpentine. Occasionally I use Cataplasma Kaolin, but still oftener the old fly blister. In the latter or third stages of the asthenic cases I believe in stimulation and use toddies of good old rye whiskey, apple or French brandy. These may be made with sugar and water or given as a milk toddy or an eggnog. The diet should be light, easily digested, and principally of a liquid nature. Suitable diet can almost always be prepared in the average home, but sometimes it becomes necessary to use the highly concentrated and predigested foods, such as liquid peptonoids, malted milk, Mellin's Food, Bovine, etc.

A great deal has been said and written of late years about the micrococcus lanceolatus as a cause of pneumonia. I have never looked upon this young gentleman as being a cause of this disease, but a product. I am not converted to the theory of pneumonia as a germ disease. I know these germs are present, but so they are in every case where there is inflammation. You may shoot down the healthiest horse you can find and in a few hours he is reeking in maggots. You might as well say the maggots killed the horse.

So, gentlemen, I would emphasize the fact that pneumonia still, as of old, is caused by exposure to cold and damp, etc., and not by germs. And in the treatment to avoid the use of opiates as much as possible. Find some other way to relieve the pain. You can generally do it by the use of hot applications and counter irritation. Keep down the fever and keep all the excretory organs to the highest pitch—keep the skin clean and active, kidneys active, liver and bowels active; support your patient well by suitable foods and stimulants. Give plenty of fresh air, but beware of drafts. Don't like too hot a room. The room should be kept so that it is comfortable to you and others. Beware of a stifling atmos-

phere. Look out for and ward off all complications possible, for it is here a great danger lies. Your mortality in uncomplicated cases should not be more than three or four per cent.

I do not wish to convey the impression that pneumonia can not be caused by inoculation with these germs spoken of. It has been done, and I suppose can be done again, by injecting into the system a sufficient amount of them to cause blood poisoning. They have the faculty of multiplying rapidly and soon become a source of infection, and the whole system becomes poisoned by them, and as the lungs and air passages are their habitat, this is where we may look for trouble. So, while I will admit this may be a cause, it is an improbable one.

I have not intended this as a classic treatise on the subject, nor have I attempted to exhaust the subject. I know I have stopped far short, but hope the ideas I have gathered from experience and advanced here may be worth something to the profession.

I thank you for your attention.

PROGNOSIS OF PULMONARY TUBERCULOSIS

BY JAMES SAWYER, M.D., ASHEVILLE, N. C.

The prognosis of pulmonary tuberculosis is always to be regarded as serious, but by no means absolutely unfavorable. Under no circumstances will it be wise to be too positive in predicting a recovery, or an adverse course, for we know that after apparent recovery or after the same has been further substantiated by a tuberculin test, a caseous mass that is encapsulated may break down, and the patient is then liable to exhausting suppuration, to hemorrhage and pneumonia, to extension of the disease to other parts, to acute miliary tuberculosis and to the occurrence of a fatal issue. This liability exists to a greater degree, of course, before apparent recovery has been reached. On the other hand, we also know of instances in which extensive pneumonic complications, or an otherwise most seriously adverse course, such as we witness in acute phthisis, have quite unexpectedly come to a standstill, and the patients have thereafter improved, and were restored to good health. Even in cases of acute miliary tuberculosis recoveries have been witnessed by competent observers. To be correct in the average is, however, all that can be demanded in the prognostication of any disease. At the same time it is sometimes wise to point out the fact that we are not prophets, and that our estimate of the future is based upon what happens as a rule, and not as an exception; and that in making such a forecast we judge the future by our past experience.

In the prognosis of individual cases it is not only the stage of the disease that may have been reached that should govern us in estimating the prospect and the probable termination of the case, but many other factors need to be considered and weighed if our estimate is to be such that it will, as a rule, be confirmed in the future.

It has been well said that tuberculosis is a disease which is characterized chiefly by its complications. Hence the prognosis is governed largely by these complications. Pure, that is uncomplicated primary tuberculosis is, unfortunately, comparatively rare, or at least it is comparatively rarely that it reaches us in that form, though, if we may judge from autopsy reports, it is not nearly so rare as one would imagine, as numerous cases are thus found in which tuberculosis was not even suspected during life. The prognosis of pure tuberculosis is good, and the prognosis of all other forms is governed by the nature and severity of the complications existing.

Up to within the last two or three decades tuberculosis, which was then synonymous with "consumption," was considered incurable, but now we know that, by proper hygienic, dietetic, specific and other treatment, a large majority of the first and second stage cases can be cured, and that many of the advanced cases can be arrested and some cured, the results depending to a great extent, as above mentioned, upon the complications existing.

However, there are certain cardinal points which may be taken as guides in prognosis. General considerations are of importance, especially the consideration of the factors that influence the course of the disease which are inherent in the patient himself. Of these the most important are his character and his mental and moral stamina, as well as his physical condition outside of his tuberculosis. His financial status also has its influence. If a man be of strong mentality, with sufficient moral force and will power, so that he can understand what is required of him and will intelligently co-operate with his physician, his chances of recovery are vastly greater than if he will not or can not do so. Moreover, if he has the means to secure all the attention and necessities required in his case he is better fitted to get well than if he can not afford these things. If in other respects his

constitution is strong and vigorous, he will have a better prognosis than if he has a vitiated constitution, whether it be by overindulgence, vice, bad habits, or inherent weaknesses, as from the diseases of childhood, syphilis or any other physical stigmata.

The scope of this paper does not permit of a consideration of all the factors which enter into the prognosis of pulmonary tuberculosis, therefore we shall limit it to a consideration of a few of the most important points, leaving out tuberculosis of the other organs and parts of the body, as well as most of the other complications.

The previous environment, taken together with the present condition of the patient, gives valuable aid in prognosis, because, if the previous environment can be improved, the patient's chances are improved in proportion. Especially is this true of poor people who have lived in unsanitary places, improperly fed and clothed, and poorly nourished. A proper hygienic environment, with plenty of clean, nutritious food, accomplishes a great deal in these cases, and the improvement is very rapid and marked, much more so than in those who have been more fortunately situated previously.

The prognosis would be still more favorable if the patient would seek the physician earlier in the case of obstinate catarrhs, etc. Sometimes the physician is responsible, in that he permits himself to be led astray in these catarrhal conditions by the excellent family history of the patient and his healthy appearance.

The physical examination does not always give a reliable clue to the prognosis, for the reason that miliary tuberculosis, which is the most dangerous, is the most easily overlooked, as its physical signs may be very slight. On the whole, the previous course of the disease and its intensity are more significant than its extent. The presence of cavities of even considerable size does not exclude improvement and cure, if

only fever, emaciation, and signs of progression be absent. Naturally the more extensive the foci, the worse the prognosis. It is most favorable if the process is limited to one apex. It is not so good if the opposite apex is involved; and the prospect of recovery is still more seriously impaired by the signs of the destruction of tissues or of rapidly progressing infiltration; *i. e.*, of a broncho-pneumonia. The more advanced the lesions are, and especially the greater the area of lung tissue that is involved, the more does the prognosis become clouded and insecure, but a formed cavity, or several such, if situated in a diseased area not exceeding in extent one upper lobe, need not be a seriously discouraging feature. A cavity as such may influence the future course of the disease, but little or not at all. If it is small and situated in an upper lobe, is well drained and dry, and especially if it appears to be well enclosed by fibroid tissues, it need never cause any serious trouble or symptoms. It is not so much the formed cavity as it is the period of softening and liquefaction of the caseous mass and the complications that are liable to attend it, which threatens the patient. Cavities of large size, those situated in the lower lobes, those that are continuing moist and are imperfectly drained, those that show little or no fibroid changes upon their periphery, or are undergoing more or less rapid extension, are of more serious import, and the greater and the more persistent the secretion or suppuration in such cavities, the greater the liability to hemorrhage, aspiration-pneumonia and continued septic absorption.

With the beginning of destructive changes the prognosis must be guarded, the more so the less evidence there is that the disease is limited to a small area, and in cases which show but little or no fibroid changes and limitation of the local disease, the destructive changes are liable to be extensive and to be continued. More serious yet is the outlook when, in the presence of excavation and local suppuration on one side,

like changes begin to show themselves in the other. In such cases the fever is a good index of the rapidity with which the patient is likely to lose in his general condition, while the extent of the area involved gives us an indication of its probable duration. If the fever is moderate and does not exceed 101.5° F., if its duration above 100° F. does not exceed more than three or four hours out of the twenty-four, if there are no severe chills or exhausting night sweats, or, if the symptoms are more severe, they yield to rest and general hygienic and dietetic management, and especially if the patient enters this stage with good digestive organs, and with a good or fair state of his general nutrition, and with a good circulation, we can reasonably hope to safely pass through this period, and that, although the patient may lose weight and strength, he will thereafter enter upon a period of improvement, which may terminate in the arrestment of the disease.

The severity of the cough, the amount of expectoration, or the admixture of blood with it, and the occurrence of hemorrhage, may in certain instances aid in determining the severity or degree or activity of the local process, and on that account may have a prognostic value. Severe cough fatigues and exhausts the patient and often interferes with proper rest and sleep, and also with nutrition when it occasions much vomiting, while it favors the occurrence of pneumonia through aspiration of sputum, especially if the latter is profuse. Large quantities of sputum, containing innumerable bacilli, usually indicate rapid disintegration of caseous material, and persistent admixture of blood with sputum or the occurrence of hemorrhage may be of like import. Absence of, or but slight, cough (except towards the close of life), absence of tubercle bacilli (excepting in miliary tuberculosis, and the beginning of acute tubercular pneumonia) or their gradual disappearance from the expectoration, absence of other pathogenic bacteria, a slight amount of expectoration, its freedom

from blood and the gradual disappearance of purulency are therefore favorable prognostic features.

From a prognostic standpoint the hemorrhages which occur in the initial stages and later from non-secreting cavities, rarely endanger the life of the patient, either immediately or remotely, but are, as a rule, of temporary disadvantage from the loss of blood and necessary confinement, though they sometimes have a very beneficial psychical effect on the conduct of a certain class of patients. In the course of destructive processes, or proceeding from suppurating cavities, the occurrence of severe hemorrhage has a like disadvantage with the addition danger of bleeding to death from the rupture of some larger or smaller aneurism contained in a cavity, or of thereafter favoring an adverse course, by adding to the exhaustion of the patient at a critical period, or favoring the occurrence of pneumonia, and, in either case, it may change the prognosis to a more serious one, and in some instances render it hopeless.

The prognosis in general is therefore comparatively good in the early stages of the disease, and as regards arrestments and improvements from the more advanced stages under which years of comparatively good or comfortable health may be enjoyed, it is by no means so bad as to justify a hopeless attitude. So long as the disease is of the chronic form, and is strictly confined to the lungs in patients who are still in fair physical condition, and able to digest and assimilate a sufficient quantity of food, efforts for such results will often prove successful, providing that the necessary measures are persistently carried out for a sufficient length of time.

The presence of associated pathogenic germs in the sputum does not necessarily cloud the prognosis; in many instances they are derived from the mouth and upper air passages, when they have no clinical significance at all. When, however, the sputum has been obtained after careful washing of the mouth, by collecting it in sterile vessels, and having

washed a globular mass with sterile water, we find a portion taken from the center of the mass to contain them and in considerable numbers, while not as yet justifying the diagnosis of mixed infection, their presence indicates that they are vegetating in a cavity, or upon a necrotic caseous mass, and that such a patient is more liable to complicating pneumonias, and to prolonged suppuration. The danger from mixed infection is chiefly the occurrence of pneumonic processes, but, if they occur, the involved area does not necessarily undergo destructive changes, and in many instances complete resolution takes place. The absorption of toxins from such associated pathogenic bacteria is of course also to be considered, since it may add materially to the existing fever. In a paper read before the Tuberculosis Congress at Naples, Sata, of Tokyo, said that the variety of forms of tuberculosis depended on the variety of the etiological factors; that various micro-organisms were found in the sputum, in the lungs, and in the blood of consumptives; that the influence of mixed infection on the tuberculous process was very great, the most important symptoms of it being atypical fever, abundant expectoration and extensive pneumonia; that the broncho-pneumonia of consumptives was excited by mixed bacteria; that the principal micro-organisms of mixed pneumonia were streptococcuc pyogenes, staphylococcus pygenes, the diplococcus of Fraenkel, and the bacillus of influenza; and that hectic fever and other symptoms of phthisis were generally produced by other bacteria. The mixed infection may in certain cases exert a favorable influence on the tuberculous process, and is hence not always an unmixed evil. Climatic treatment, hydrotherapy, antiseptic inhalations, etc., are intended, in a large measure, to destroy, not Koch's bacillus, but the other micro-organisms.

The three cardinal points governing the prognosis of pulmonary tuberculosis are the common sense of the patient,

the condition of his stomach, and the condition of his heart; and to these may be added another, which to my mind is of equal importance, namely, the physician himself.

Common sense in the patient comes first for the reason that though we may be able to mollify a stomach outraged by overdosing with strong medicines and overloaded with indigestible foodstuffs, and may also strengthen a weakened, overworked heart, we are impotent to endow a patient with common sense, if he is not so favored by nature. And it is in a large measure upon his common sense, his ability to see and understand the necessity of taking the best of care of himself, and of faithfully, heartily and intelligently co-operating with his physician, that the prognosis depends. Who of us has not seen a patient in a relatively good condition go to the bad simply from lack of common sense in taking care of himself and failing to observe the ordinary rules of health? Many there are who had rather "have a good time" than get well, and these, almost invariably, do have their "good time," and eventually pay the full penalty, because they would not harken to advice. Many young people especially are doomed in this way, as they will go to balls improperly clad and dance their strength away, or to overcrowded assemblies where they breathe the vitiated atmosphere and catch "colds," or else yield to the follies of over-indulgence, especially in strong drink. In the latter case, unfortunately, they only too frequently have encouragement from some physician, who tells them to "drink as much as they can hold," and they very faithfully proceed to do so, to their ultimate destruction, for, while strong liquors may be of some service in certain selected cases, its indiscriminate use can only result in trouble, and should hence be thoroughly discouraged. Many others insist on keeping late hours and eating heartily late in the evening and just before retiring, thus losing sleep, injuring their digestion and upsetting their nervous system.

While the element of fear and selfishness in morally weak individuals assures a certain amount of proper conduct, at a time when their symptoms alarm them, it always turns out that, with the advent of amelioration or improvement, such conduct is no longer followed, and through self-indulgence or recklessness due to the lack of firmness of character, relapses occur that might otherwise have been avoided. The way to a consumptive's grave is often paved with relapses which, as a rule, are preventable, and their avoidance depends in a large measure upon the patient himself. Wealthy patients should always be cautioned that they can not purchase their recovery by the simple expenditure of money, no matter how lavish they may be, and such as expect to do this, by going the world over from one resort to another intending to combine the pleasure of travel with their efforts for recovery, according to their own ideas of their requirements, are liable to find in the end that they have chased a rainbow. Thus the question of character is a most important one, and its influence upon the course of the disease is much greater than one, at first thought, would suppose. Including morality, will power, determination and self-control—when these are conjoined with intelligence—we have, as a rule, a patient that has not wrecked his life with vice and dissipation, and such a patient will aid us in our efforts for his recovery by conscientious and persistent compliance with our advice in all details and particulars in a manner that will assure the best possible results from therapeutic measures.

The condition of the stomach, and by "stomach" here I mean the entire digestive system, is also a very important factor in the prognosis. A good healthy set of digestive organs is an excellent prognostic feature and speaks well for the ultimate recovery of the patient. On the contrary a badly balanced digestive system is an unfavorable prognostic condition. Probably the most common gastric com-

plication is a simple catarrhal gastritis, which is subsequent to a catarrhal condition of the nose or throat, or both. This, however, is not necessarily of serious significance, as it frequently yields to prompt and appropriate treatment, and the removal of the cause, which is most commonly overdosing with strong medicines like creosote, the indiscriminate use of alcoholics, over-feeding or indulgence of the palate, as in the use of too much sweets, condiments, pickles, etc., the result of a depraved appetite. Naturally the more persistent the gastritis, the more serious it becomes, and when degenerative changes take place the condition is still more serious. Dilatation of the stomach is usually a serious complication, and calls for special care and attention when present.

In making a prognosis in all cases and in any stage of the disease, the general nutrition, and the apparent, as well as the inherited, resisting power of the individual, are always important, and often more so than the actual extent of the lung disease. If the physical development is good, or fairly good, and the patient is still well nourished, or if in the more advanced disease, with the emaciation that may have occurred, the muscular system has not suffered unduly, and the loss in weight has been chiefly of fat, if the skin is still well nourished, resilient and firm, if the arms and legs are emaciated disproportionately to the rest of the body; if, in women, the mammary glands have not extremely wasted, our prognosis is better than when the reverse is the case, and it becomes more doubtful the more numerous these unfavorable symptoms are. Persons who have been weaklings from their childhood or youth, who have, from previous disease or inheritance, a weak constitution, who have never been up to an approximately normal standard, or who have seriously injured themselves by excesses, or alcoholic habits, women who have given birth to numerous children in rapid succession, or in whom the disease has developed actively immediately upon childbirth, have, as a

rule, a less favorable prospect for improvement and recovery than do others where such histories are not present. The mere fact, however, that there is a history of phthisis in the family does not diminish the patient's prospect for recovery.

In close relationship to the present physical condition stand the digestive organs, and their integrity is one of the cardinal requisites to a good and unclouded prognosis. Being a disease so constantly attended by wasting, especially when it has made material advances, we are sadly handicapped if the digestive apparatus is such that adequate nutrition can not be supplied.

Progressive loss in weight is of unfavorable import, but temporary loss, while undesirable, does not influence the prognosis, if it is readily made up after the disappearance of the cause. While gain in weight is always a favorable sign, a large amount of adipose tissue is not desirable. During the active febrile periods of the disease gain in weight is not often observed, and to attempt to force it at such times is often followed by gastro-intestinal complications, with more final loss than would have occurred had no such attempt been made. If during such periods the loss is but moderate or slight, or if the patient can be sufficiently nourished to hold his own, the prognosis is not worse because no gain is made, or because temporary losses are sustained, provided the weight is regained after the cause of the loss is removed. Most favorable, from a prognostic standpoint, is a steady gain in weight, when the tissues become firm and the peripheral circulation is good. Such gain is not likely to occur so long as the patient has fever, and it usually indicates an arrestment of progressive tuberculous invasion, or of destructive processes.

Another and equally important condition to a good prognosis is a good circulation dependent upon a competent heart. A strong heart, with no complications or weaknesses,

is a very favorable prognostic feature, and will be of incalculable aid in overcoming serious difficulties. Frequently, however, there are hypertrophy and dilatation of the right ventricle. These are essentially mechanical complications and are brought about by the obstruction to the circulation in the pulmonary circuit. If the compensation is perfect, then there is no danger, and the normal is gradually regained as the obstruction is removed and the lung clears up. But a non-compensating dilatation is a serious menace to the life of the patient, and the heart must then be supported as best it may. Herein, it might be wisely added, lies one of the grave dangers of the incautious general use of exercise. Tricuspid insufficiency, muscular weaknesses, endocarditis, pericarditis, fatty degeneration and other cardiac complications all add materially to the seriousness of the prognosis.

The appearance of tachycardia in the course of pulmonary tuberculosis shows, as a rule, that the power of the right ventricle is unequal to the task of overcoming the obstruction in the pulmonary circulation, and unless this condition is recognized and measures are taken for its removal, the prognosis is seriously impaired. Here again exercise is dangerous, and must be strictly limited, or better prohibited entirely. If the pulmonary obstruction shows itself by a sharp closure of the pulmonary valves without tachycardia, this behavior of the valves indicates a strong, and probably hypertrophied right ventricle, which is a favorable sign. The disappearance of the existing accentuation of the valve sounds, under increased dyspnoea and with a weak and rapid pulse, is indicative of the failure of the ventricle to maintain the pulmonary circulation, and may coincide with beginning dilatation. On the contrary, if the existing accentuation disappears, or if it is noted only after severe physical exercise, without undue acceleration, with a strong pulse, it shows that the pulmonary circulation is becoming

relieved and is well maintained, and that the heart is equal to its task.

The physician himself is a factor of great importance in the prognosis inasmuch as he must bear the bulk of the burdens and be the moral mainstay of the patient. He should have sufficient self-control, will power and tact to gain and hold the respect and confidence of his patient, to control his actions, cheer him up and relieve his fears, when such things are possible. He must make the patient feel that he has a firm personal interest in his health and welfare, and to do so must really feel this interest, and be in full sympathy with him. At the same time he must impress upon the patient the great necessity of absolute obedience in all things, the faithful adherence to all rules and the carrying out of all instructions, as well as the value of his full confidence and perfect frankness, and the need of his most earnest and intelligent cooperation. He should try to discover the best that is in a patient, and should always give him the best prognosis possible, for such is the psychic influence of the really good physician that his opinion of the prospect of the case bears much weight in the final event. In fact, such a case as this has been noted. Two physicians, each treating a case of tuberculosis in exactly the same physical condition, gave opposite prognoses. The one who gave the good prognosis verified it in time by curing his patient, while the other physician, who gave a bad prognosis, was in the end justified by the result. Thus it is that a certain amount of cheerful optimism is good for the patient, if at the same time we can keep them well within the bounds. Few patients possess the elements of character to such a degree that their conduct is always faultless, and most of them require the influence of responsibility to their physician, and of supervision in their daily life and conduct, to keep them steadfast and in co-operation with us, and the more strict and constant such supervision the better are we assured

against relapse. Therefore it is the duty of the careful physician to observe the strictest supervision over his patients in order to prevent any relapse occurring. The method of treatment adopted by the physician also enters very markedly into the prognosis of the individual case, but the time limit forbids a discussion of this here, though I should very much like to do so. Hence it is that the advice and the professional care and skill under which the patient is to accomplish his improvement and restoration may become an equally, if not more, important factor than any other.

SOME OF THE EVIL RESULTS OF MOUTH BREATHING.

BY R. I. TEAGUE, M.D., DURHAM, N. C.

Mouth breathing is one of the most important subjects claiming the attention of the medical world to-day. One writer has recently said that one of the most interesting problems in medicine to-day is the prevention of the long list of ills and pathological conditions incident to mouth breathing in the young.

To thoroughly understand the evil results attendant upon mouth breathing we should not lose sight of the many causes producing it. The first and most important is enlarged adenoids, second hypertrophic rhinitis, third enlarged tonsils, fourth bony growths of and deviations of the septum polipy are causitive factors in many cases. In the rush for the more formidable abdominal and other major operations the above named conditions are often lost sight of or, if recognized, are not fully appreciated. Little importance being attached to them, and the unfortunate subject is left to himself and the protection which it is the duty of the physician to give is denied him.

Enlarged adenoids by pressing on the Eustachian tubes may cause a long train of symptoms from ordinary catarrh of the tube to the most formidable cases of otitis media purulunta and septic meningitis.

One of the by no means uncommon complications is mastoditis. Many patients are made partially deaf for life by repeated attacks of Eustachian catarrh, which was looked upon as insignificant. Though the tubes and ears seemingly return to their normal conditions, yet changes are started in the mucous membrane lining the tube, middle and internal ears which interferes with the vibrations of the ossicles and functions of the tubes and ears in general.

This condition increases with each subsequent attack and as a consequence we find after a limited time a retracted membrana tympani, a shortened and thickened stapedious muscle, foot plate of the stapes more or less firmly fixed in the oval window, subjective noises are present in the ears to a distressing degree in may cases. Hardness of hearing is apt to be present and is progressive in most cases and destroys the patient's happiness if not usefulness.

A small amount of hypertrophied tissue in the region of Rosenmuller fossa may by its constant irritation and congestion lead to permanent deafness. This condition is often present after incomplete removal of adenoids when the central part has been removed, or button-holed as it were, and the lateral parts left. Enlarged tonsils are very often the predisposing factor in producing the train of symptoms above enumerated. Also to a lesser degree the other causes mentioned, especially nasal stenosis, are causitive factors.

Sinusitis is another complication often present in the mouth breather. One or several of the accessory sinouses may be affected. These sinous affections may be periodical or they may be constant. The periodical attacks come with each cold in the head which it aggravates, and the return to normal is longer and longer deferred, until it becomes a constant and chronic and the catarrhal condition is changed to an empyaemia. These patients complain of taking cold easily and speak of it as a constant cold in the head.

One of the first changes wrought by interference with nasal or normal respiration is a general congestion of the mucous lining, the upper respiratory tract, which is continuous with the mucous linings of the accessory sinouses, middle and internal ears. By blocking up the normal channels of exit the normal secretion is retained, changed and decomposed, and adds to the irritation already established. The air becoming rarified is partially absorbed, and a partial vacuum is formed, causing congestion. This congestion

finally leads to hypertrophy of the tissues involved. This newly formed hypertrophied tissue is finally absorbed and leaves the organs involved in a permanently crippled condition, robbed of their normal linings or mucous membranes.

By far the most important consideration is the effect upon the general health and physical development of children. The air improperly warmed, moistened and filtered enters the lungs, is irritating and causes a thickening of the tissues of the alveoli and bronchi. Dry catarrh of the throat and chronic post nasal catarrh are often present to add to the discomfort of the sufferer. The result is a poorly developed chest and constitution.

Owing to the thickened mucous membrane, the proper exchange of gasses in the lungs is interefered with, the waste products are not given off or exchanged for oxygen as they should be, but circulate freely in the blood, thereby robbing the tissues of their normal food. The crippled condition of the mucous membrane, unable to repel attacks of germs, offers a good field for their lodging and development. Consequently we find such diseases as scarlet fever and diphtheria are more fatal in the mouth breather. Pneumonia, grippe and other grave diseases more often terminate fatally in this class of patients.

In nursing and very young children adenoid vegetations are often present and not suspected. The respiration is noisy, there is slight nasal discharge, restlessness, disturbed sleep, dyspnoea, laryngeal spasms, and in some cases convulsions. The nutrition is diminished and often the child succumbs to a progressive inanition, the real cause never being suspected. If, however, the proper treatment is followed, the difficulty of respiration ceases, there is marked improvement in the nutrition, sleep becomes normal and quiet, or, in other words, the transformation is complete.

MODERN METHODS AND AIDS IN THE STUDY AND TEACHING OF HUMAN ANATOMY AT A MINIMUM COST.

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It is unfair to the prospective student of anatomy to accuse him of satisfaction in a mediocre course or of incapability to enthuse over really high ideals of acquirement in this field. One sometimes sees the statement that most students merely want a course which will enable them to pass the State Board examination, that they are then willing to repudiate any snatches of anatomical knowledge they may have gathered and possibly even sorted, and that the majority are devoid of a live interest in their work. I am convinced that this is largely erroneous, if proper methods of presenting the subject are employed. Many students attend the medical schools of moderate fee and convenient distance, perforce, and if financially able would gladly seek the most expensive centers of instruction. Again, a large proportion have dormant ideals, and the great opportunity of the instructor lies here, and at the same time his responsibility, for to his door should be laid the charge that so many students desire an inferior course in anatomy. For this reason I feel justified in the statement that there should be no good excuse for not giving a thorough, scientific course in anatomy and one of a high order of excellence in any place where facilities exist which justify the existence of a medical department, whether it be an independent medical school or part of a college or university. There are certain requisites for giving such a course which are not unattainable; certain methods of more or less recent introduction entirely feasible if properly interpreted, adapted and applied. And they may be adapted to suit the needs and income of the small as well as the large anatomical department.

COLLECTION OF MATERIAL.

Obviously the prime requisite is the acquisition of properly prepared anatomical material. The collection of material has from time immemorial been a difficult task and until recently fraught with many almost insurmountable difficulties and dangers. At the present time in this country the laws governing the disposal of cadavers to anatomists are on the whole satisfactory. In some states, however, this is not the case and should be made a live issue. It is hard to understand the zeal of certain so-called charitable organizations who become indefatigable in opposing the turning over of paupers, vagrant and criminal dead to medical schools, while these same zealous individuals would in all likelihood be the first to condemn anatomical ignorance on the part of physicians. Nothing is truer than Barker's remark that in medicine anatomy has long ago won its place as a science essential as a basis for all subsequent medical studies. And it is impossible for the rising generation of physicians and surgeons to grasp anatomy without thorough training in the dissecting room. It is somewhat easier to understand the shrewd political reasons that guide even so-called reputable physicians in opposing legislative measures which will insure an abundant supply for the anatomical laboratory. The combined efforts of the charity organizer and the crafty politician operating chiefly through the inflammable public mind have reduced our supply in some states to a minimum and created the necessity—as it always will—of resorting to more or less unpleasant methods, which reflect discredit on the anatomist, where it does not belong, and not on the law makers, where it does belong.

PREPARATION AND PRESERVATION OF MATERIAL.

The preservation of cadavers for dissecting has been greatly improved in the past few years. The old dissecting hall, with its evil odors, careless methods, brutal exposures and

disgusting details, has no reason for existence to-day. The character of the dissecting room is a good index of the efficiency of an entire medical school. The anatomical laboratory can be made as cleanly and attractive as the chemical laboratory, or the biological or the physical workshop. Indeed, Dr. Barker hardly exaggerates possibilities when he remarks that "the material can be so well preserved that even the fragrant Havana is said to be more offensive to some sensitive souls than are the odors from the well kept dissecting room."

For successful preservation of cadavers there is necessary (1) a certain equipment, (2) a definite, careful technic.

(1) Equipment.—The equipment now installed in my own laboratory at Wake Forest, and which has proven entirely satisfactory, is as follows: (a) An hydraulic pressure tank which consists simply of an ordinary water boiler with inlet and outlet controlled by simple stop-cocks, and at the top a pressure gauge and a pipe for conducting the compressed air. The apparatus is simple and easily controlled. (b) Injection flasks from which the embalming fluid and later the coloring matter is forced into the vessels. The flasks are connected with the pressure tank by ordinary rubber tubing, while they are joined to the arteries by a series of tubes in a fashion presently to be described.

(c) Chemicals.—By far the best injection material is a mixture consisting of equal parts of glycerine, 95 per cent. alcohol and pure carbolic acid. Good results are obtained with the straw colored carbolic acid (92 to 97 per cent.), costing only forty cents a gallon. The crystal form is more satisfactory, however. There are many other embalming fluids in use, but they are all subjected to criticism as indicated in a recent article by Mall. For injecting the arteries nothing could be more satisfactory than the method now in use at the Johns Hopkins Anatomical Laboratory. The fluid used is made by adding to a saturated alcoholic solution

of gum shellac, enough ultramarine blue to give it a decided color. The advantages of this mixture are its low cost, the ease with which the granules pass to the finest arteries, and the fact that the solution can be injected cold and can be kept constantly and indefinitely in stock without difficulty.

Technic.—Cadavers should be received as soon as possible after death, though if kept in a cold atmosphere they may be several weeks old before embalming. After much experimenting it has been found to be most satisfactory to inject both femoral arteries, proximally and distally. Four glass cannulae are thus inserted into the two femoral arteries, securely tied in place and connected with the pressure flask containing five to six quarts of the embalming fluid. The air pressure from the tank is gradually applied till the gauge indicates a pressure of eight to ten pounds to the square inch. This is a sufficient pressure consistent with safety. It is always a good precaution to open the femoral veins before-hand, as this insures a better penetration of the embalming fluid. Ten minutes, as a rule, suffice for the complete injection, which may be noted by the appearance of minute bleaching lines along the course of the small cutaneous vessels and frequently by a frothy bubbling in the pharynx, while at the same time the tissues become firmer. After the embalming process is completed the tubes are left in place and from four to twenty-four hours later a fresh pressure flask containing about three quarts of filtered ultramarine blue mixture is connected up and its contents injected under six to eight pounds pressure.

The cadaver is now thoroughly and completely smeared with vaseline, next which is put a layer of toilet paper to exclude the air. The whole is wrapped in cheese cloth. Bodies prepared in this way will keep indefinitely in ordinary temperature and be perfectly good for dissecting at any time. Moreover, the skin is soft and pliable and the tissues ideally preserved for recognition and minute dissec-

tion. The method outlined is based on the one in use at the Johns Hopkins Anatomical Laboratory and completely described by Mall in a recent paper. I feel assured by experience that this method can be practically installed and used in the smaller schools of medicine at a low cost and with the gain of a high grade of efficiency. Mall has effectively demonstrated that the expensive cold storage apparatus is not essential, and that even the storing of bodies in vats is not necessary. However, it is always a good plan to have a vat available. A zinc-lined vat holding fourteen adult bodies and filled with a three per cent. carbolic acid solution should not cost much over fifty dollars, as I have demonstrated in my own laboratory, where I have installed one similar to those in use at the University of California and described by Flint. The vaseline preparation is, of course, omitted upon bodies consigned to a vat. They may, however, be removed at any time, smeared and wrapped and laid away on a shelf.

ALLOTMENT OF MATERIAL.

It should be the aim to provide a sufficient number of cadavers so that six men are at work on each. The body is thus divided into three parts, viz.: (1) Head and thorax, including the neck and thoracic viscera; (2) upper extremity, including the muscles attached to the scapula and those of the back; (3) lower extremity, including the abdominal wall and viscera and the perineum. The study of the central nervous system, involving as it does a special technic, is not prosecuted as a part of gross anatomy, but as a part of the work in histology.

Each student is held strictly responsible for his part as regards its intelligent dissection and its preservation. To this end he is furnished a plentiful supply of cheese cloth. At the close of each dissection period he moistens his part thoroughly with a mixture consisting of carbolic acid twenty

parts, glycerine thirty parts, water one thousand parts, and then wraps the whole in six or eight layers of moistened cloth. It is well to add a layer of unbleached domestic previously soaked in linseed oil as an outside covering.

According to the division of parts indicated above, the students are able to work advantageously together. In case the cadaver is under size or half grown it is more convenient to make the assignation to only four men.

EQUIPMENT.

Dissecting room.—There are three essentials for a good dissecting room: cleanliness, good light, good ventilation. The room—or better rooms—should be located on the upper floor, thus rendering them more private and allowing the construction of sky-lights. The apartment should be provided with plenty of windows and a generous supply of fresh air insured. The furnishings of the room are simple. The best tables can be had at a very low cost. I have found the most convenient dimensions to be 39 inches high, 30 inches wide, 6 feet 4 inches long. They should be covered with zinc and the top should slope toward the center, which is pierced by an opening two inches in diameter through which fluid may drain into a bucket suspended underneath. Bookstands are essential and easily constructed. Each student should have at least one on which to place his atlas, manual and descriptive anatomy, for the best study can be done in the dissecting room with the books open and the dissected parts exposed to view.

The instruments needed for dissection are, of course, furnished by the student with the exception of saw, mallet and chisel, bone forceps and such others as may be only occasionally needed. The selection of his instruments should not be left to the fancy of the student, but he should be advised to get only the best. I have had put up for me by a well known Baltimore firm a set of instruments made of the very

best material. Each set consists of one cartilage knife, two bellied dissecting scalpels, two scalpels with straight edges and sharp points, two pairs of scissors, one strong, blunt probe after Mall's model, one large dissecting forceps, blowpipe, hook and chain. These instruments are neatly packed in a substantial case and exactly meet the requirements, while the cost is very moderate.

The osteological outfit should consist of a sufficient number of disarticulated skeletons for each two students to have one, which is to be kept in their possession throughout the session for constant study and reference. In addition a male and a female skeleton should be kept in the dissecting room for ready reference. A disarticulated skull and a specially prepared temporal bone showing the middle ear are indispensable. A thorough knowledge of osteology can be gleaned from this outfit, and the expense of acquiring it is moderate.

There are a vast number of most excellent charts and models which add to the efficiency of the dissecting room. With the exception of a few my observation has been that their value to the average student is limited. The exceptions are included under certain ingenious models of the brain and organs of special sense, in which region the average student seldom successfully delves when the cadaver is his only resource. The provision, then, of the necessary charts and models need not be a financial tax, and gradually such charts as might be classed under the head of luxuries may be added.

One of the most valuable recent additions to anatomical study is the introduction into the laboratory of serial cross-sections of the entire body. These preparations studied in connection with the daily dissection are of great value in establishing in the student's mind a knowledge of regional anatomy and many important relations which might otherwise fail to be impressed upon him.

Books are as much the student's tools as are his instru-

ments and no less indispensable in the dissecting room. With the latter he learns to cut, with both to dissect. The word *slash* and the picture that word calls up is forever prohibited. A student should be provided with (1) a standard descriptive anatomy, (2) a practical dissecting manual, (3) if possible with one of the several excellent atlases now to be had. It is not my purpose to review the various text-books. But I do wish to emphasize the importance of a medical library containing them all. The instructor should be familiar with the good points in each, refer the students to them and thus instil a thirst for independent work and research in this field. There is hardly a cadaver that does not present some fairly marked variation in structure from the usual description, and students inspired with the thirst for discovery will acquire much greater interest in their work and thoroughness and care in their dissection if spurred to it by this incentive. A library which shall not cost over $75 to $100 is a necessary equipment for this work. The library should include some of the best anatomical journals, which are such an efficient stimulus to work and interest.

While it is hardly in the province of this paper to discuss methods of instruction, I desire to call attention to certain principles not universally adopted.

1. In regard to the value of lectures. The formal anatomical lecture is becoming obsolete. It has become apparent that the time is vastly better employed by using all that is available in a maximum of actual dissection by the student, under the watchful eye of the instructor, accompanied by frequent demonstrations of prepared dissections, cross sections and models. When one considers the actual excellent text-books and manuals of anatomy produced by the master minds in the science and freely accessible to the student, it would seem superfluous to weary—not to say disgust—him by a tiresome rehash. The coherence of the class may, I think, be to advantage preserved by definite quizzes say once

a week. The majority of the questions, however, should be put as the instructor makes his daily rounds. These questions should be directed by well directed hints about the work and—what is so important to many students of anatomy—encouraging words. Our advances in the preparation of material and construction of models are largely responsible for this distinct advance in methods of instruction.

2. In regard to the value of drawing. After an extensive experience with students of anatomy, Dr. Barker embodies this remark in the introduction to his splendid *Laboratory Manual of Dissection*: "Any one who can write can draw." The value of drawing is not in the picture, but in the making of it. Structures and relations are impressed upon the student and retained by him in a most satisfactory manner, and at the same time it encourages exactness as nothing else can.

In conclusion, may I add that the value of anatomy is twofold. First, there is obvious its necessity as a fundamental science upon which is based the intelligent practice of medicine ad surgery. This one might call its concrete value. Secondly, there is no branch in the entire domain of medicine which so trains the student to exactness and keenness of observation—qualities so essential to success in after years. Show me the student who with unwearying eye and careful precision accomplishes a difficult dissection and unravels the branches of Meckel's ganglion and those fearful petrosal nerves, and I will show you a man who in after years will detect the first rale in the victim of tuberculosis and save many a life by his attention to detail.

FORCEPS IN LABOR.

BY L. D. WHARTON, M.D., SMITHFIELD, N. C.

It would appear from the title of this paper that the whole ground for the use of the obstetrical forceps is intended to be covered. That, however, is not my intention, as it would necessarily consume more time than is allotted to one paper. My purpose, the rather, is to discuss some features, coupled with a few practical observations, for the use of forceps in labor, thereby limiting greatly the scope of this paper. In the first place I desire to call the attention of the Society to the utmost practicability of this subject to every general practitioner. I believe it can be safely said that there is no one thing in medicine that is more pregnant both with good and bad to our patients than this. Good, because it presages a lessening of the throes and sufferings of child-birth and, yea more, a diminution of many possible evils, both to mother and child. Bad, because an unintelligent use of the forceps is productive of all manner of harm. I deem it needless to enumerate the many avenues of danger; they are too well known to the medical man. A word in behalf of a more thorough technical preparation for the practice of this branch of our profession, I conceive, would not be amiss here. Doubtless there is more attention given the subject in our medical institutions of to-day than when I graduated some thirteen years ago. In most cases, I dare say, the first time we used the forceps in actual labor was after a few weeks or months, perhaps, of active practice. We have a patient suffering from prolonged, tedious labor; we are becoming uneasy; we imagine we have an impossible delivery; we see our patient, in our anxiety, growing weaker and weaker, and the pains losing their expulsive force; in great perturbation and uncertainty we seize our forceps and with a vague idea of the necessities of the case we proceed to apply them, and after a successful "pull" we hasten to

assure the attendants that delivery of a living child and, in fact, any delivery whatever without its use, was an utter impossibility. I refrain from detailing the injuries the mother has sustained, as likewise the child. The operation may or may not have been performed intelligently, and I wish to say that I do not by any means desire to disparage it, and yet this is the manner of beginning with most practitioners of my age. It is to be hoped that a great change has been effected in later years.

Now, briefly, I desire to call attention to a few indications for the use of the forceps in labor—those more often seen—with a few practical suggestions that appear pertinent. 1st. Deficient uterine contraction. While I have mentioned this first, my experience has not taught me that it is most common. It occurs undoubtedly occasionally, but not so frequently as some would have you believe; indeed I believe it is rare. The contractions may weaken and at times cease entirely, only, as it were, to get a hold and recur with redoubled vigor. I understand this indication to obtain only in conjunction with a weakened constitution generally, and therefore includes what is usually classed by itself, viz., danger to mother. 2d. We are often confronted with danger to the foetus. This is most common in protracted labors and I shall confine myself to this phase alone. It is not as generally considered as it should be as a cause of early infantile deaths. Prolonged pressure of from forty to eighty pounds upon the child's head, impacted firmly within the pelvic cavity, it seems to me, is abundant cause for the many deaths that occur during the first few days after birth. This we pass off in a general way as "internal injury." True, but should we be satisfied with that? I think I may state without fear of successful contradiction that the far larger number of deaths occurring within the first few days are thus caused, and in support of this contention I merely ask you to call to your mind, in your experience, the number that have died after prolonged labor. Therefore, use the

forceps here, other things being equal. This brings me to the only other indication I shall mention—mother's suffering. Some, yea many, perhaps a large majority, will take issue with me on this proposition. Indeed, only a few years ago I not only did, but went on record. Perhaps I should be loath to let this stand unmodified, and in this manner, that the indication should obtain only in experienced hands. In an article written bearing upon subject and read before the last meeting of this Society, that met at Durham, N. C., I said: "I am free to say that when labor is natural and no danger is threatened nor anticipated, one would not be justified in applying the forceps." Quoting Sajou's Annual and Analytical Cyclopedia of Practical Medicine as claiming that the forceps should never be used unless there were positive indications for its employment. I contended that suffering was not a positive indication, of course admitting that suffering should not be permitted to continue to the detriment of my patient. Now I hold that suffering should be considered as an indication and with a thoroughly dilated os, the head well down on the perineum or wedged under the pubic arch, with a possibility of an hour or hours' suffering, the woman should be relieved. My attention was called to an article a few months ago in which the author claimed to wait two hours after the os was thoroughly dilated, then invariably took the child. It is not at all necessary; indeed, it is not best, to assist the head entirely clear of the mother, but to exert traction gently and firmly, *always within the line of the pelvic axis at the point of operation,* until the head is loosened, and one or two pains, after the withdrawal of the forceps, will give birth to the child. By removing the forceps you lessen the risk of lacerating the perineum. It is not best, likewise, to put the mother too fully under the anaesthetic, as in so doing you may have to wait too long for the renewal of pains, and in case you have delivered the head the danger of asphyxia is imminent.

MANAGEMENT OF THE FIRST STAGE OF LABOR.

BY H. M'KEE TUCKER, M.D.,
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If a doctor is called to a case of labor for the first time and finds a woman in the first stage, there are five things he should do.

1. Get her history, particularly with reference to rickets in childhood, and if multipera, with the reference also to past labor, etc.

2. Ascertain by external pelvimetry the probability of contracted pelvis, to be confirmed later by internal examination if suspected. At this time also determine the probable position and presentation by auscultation.

3. See that the bladder and rectum are emptied, the latter by enema, as the distention of either predisposes to uterine inertia. And a distended rectum narrows the pelvic canal as well as predisposing to infection.

4. Direct the patient to be given a general bath, followed by a disinfectant, the external genitalia and surrounding area with bichloride solution.

5. Make internal examination with steriled hands, separating labia with the fingers of the other hand, at the same time looking at the parts so as to introduce the examining finger directly into the vagina, and thereby avoid possible contamination from contact with the external genitals. Trying to find the vaginal orifice without looking at the parts is false modesty and an inexcusable break in the technique. The objects of this internal examination are: first and most important, to determine the position, presentation and degree of engagement of the presenting part; the position of the perineum; size and dilability of the vagina; the presence of exostosis and tumors; the condition of the cervix, whether soft or rigid, thin or oedemetous, and last the mova-

bility of the child. After this, if everything is normal, pains regular and effectual in action is the course for the obstetrician, other than allowing his patient to walk or sit as she desires, as moving around hastens dilatation and makes her more content to go to bed when she has to. Do not allow her to continue erect posture after the cervix has dilated to the size of a dollar, as it predisposes to danger, both mother and child. After this time, by no means allow her to use commode or water closet, as she will often request, for it is possible for child to be born thus, suddenly into sewer or closet.

How many times should she be examined? As few times as possible, ascertaining all the foregoing facts at one examination, which can only be done by a *careful* and *always* methodical examination. So much for the normal case. Here let me say these really need no physician; the only need for him is to detect and detect early any complications or abnormalities which may be present, and treat these at the *proper* time and in the *proper* way. If this is always done, the maternal and foetal mortality would be practically nil; as it is, these complications are often not ascertained until it is too late to correct them, and in this way countless mothers and children have been sacrificed. The importance of the early recognition of complications which prolong labor and make it difficult, or which, if left unrecognized, threatens the life of either mother or child, or possibly both, can not be overestimated. For instance, take a posterior face case. If this be recognized early, it may be converted into an anterior vertex, the most favorable position and presentation by external version; or if this fails, it is possible to push the chin forward or perform an easy podalic version. While if unrecognized and allowed to go on for some time, it may become impacted, which will necessitate a destructive operation, as well as endanger the mother's life by exhaustion, threatened rupture of the uterus, and increase risk of infection. In case of contracted pelvis, carcinoma of the cer-

vix or rectum, or anything which makes it impossible for delivery by the natural passages, the danger to mother and infant depends largely upon its early recognition during the first stage of labor, if not before. If breech cases were always recognized during the first stage and converted into vertex cases by external version, you would have a foetal mortality of less than 5 per cent. instead of 30 per cent., as is the case in breech presentation. In short, the treatment of all complications is to recognize them during the first stage of labor, if not before, and institute treatment before it is too late to save the life of infant or before the mother's life is too far endangered. In cases of adynamic fevers or advance disease of the heart, it is well to apply the forceps through a partly dilated cervix, and in this way facilitate its early dilatation and thereby save the woman the nervous strain and exhaustion of a prolonged first stage.

In this connection let me emphasize the fact that no woman with advanced organic disease of the heart, especially if she has renal insufficiency as well, should be allowed to carry her child beyond the eighth and one-half or the ninth lunar month. At this time, premature labor should be induced, and if properly performed, may be done without danger, insuring a very much easier and consequently a less dangerous labor.

Some may term this meddlesome midwifery, but nevertheless, meddlesome or otherwise, it is the correct method.

The one thing that most often requires treatment is the prevention of a too prolonged first stage. In the large majority of these, there is no real obstruction in the cervix, but is due almost always to deficient expulsive powers, uterine inertia; therefore we should direct our attention to the different means of stimulating the expulsive forces of the first stage of labor. These methods are applied both without and within the passages. All of our resources which are used without the passages should be applied. If the patient is

more or less tired out from a long continuation of feeble and ineffectual pains, the rational thing is to give her a sedative which will produce sleep and restore her nervous tone. The best is probably chloral or morphia. On awakening, the cervix will probably have softened, the pains will be strong and regular and the first stage proceed satisfactorily. If after administering the drugs, or if from the beginning they are ineffectual, we should administer uterine and nervous stimulants. Quinine in a glass of sherry is often all that is needed. If the stomach is irritable, the bisulphate should be given by the rectum in twenty to thirty grain doses in the form of a suppository. Walking, as stated before, will often increase the contractions by reflex excitation. Hot and cold applications applied alternately to the hypogastrium will often be of benefit. Strychnine given hyperdermically in one-sixtieth of a grain dose every fifteen minutes for three or four doses is often of benefit, especially in multipera with more or less flabby uteri. A better plan is probably to give one-thirtieth of a grain three times a day for the last four weeks before confinement. *Ergot* should never be given during the first or second stages of labor, except in delivery of the second child, in case of twins, or in those cases where you fear post partal hemorrhage and are prepared to empty the uterus at once. Any one who would give ergot, as is sometimes done to stimulate pains of the first stage, must certainly be ignorant of its mechanism and does not realize that while he is increasing the expulsive forces, he at the same time may be blocking up the gateway, the ergot sometimes acting on the circular fibers of the cervix, thereby causing its retraction. Occasionally we observe a tetanoid contraction and when it exists oxytocics are positively contra indicated. Here you should administer a few drops of ether or chloroform and if necessary hasten delivery by manual dilitation and extraction, as a prolonged and powerful tetanoid contraction may result in the death of the infant.

So much for the methods of accelerating the first stage of labor applied outside the passages.

Now just a few words in regard to the means of shortening the first stage of labor applied within the passages. As a general rule, we should avoid recourse to these as far as possible, as all predispose to some degree to sepsis, but there are times when it is necessary and we should recognize these and know how to deal with them. For instance, in case of placenta previa, premature separation of abnormally situated placenta, rigidity and cicatricial contraction of the cervix, eclampsia, imminent danger of the death of the mother and any condition which renders immediate emptying of the uterus necessary. The os may be dilated by Barnes' bags, by graduated bougies, by the fingers, by forceps or pulling on foot or leg in breech cases, by multiple incisions or by metal dilators.

In regard to the hydrostatic dilators of Barnes and Champetier ded Ribes, they not only excite uterine contractions, but also hasten dilatation of the os.

The objections to them are: they predispose to sepsis, malpositions and presentations, as well as being diffifficult to place. Although it is considered by some to be malpractice to assist ordinarily dilatation with the fingers, yet when the cervix is soft and low down it is perfectly justifiable.

Incisions and instrumental dilatations are seldom indicated except where there are indications to extract the child at once. Sometimes you examine and find although the cervix is partly dilated, yet during a pain, the bag of waters does not protrude into or through the cervix. In this instance it is due to adhesions between the membranes and uterine wall, which should be separated by introducing the finger through the os and sweeping the first two joints around the lower uterine segment.

The bag of waters should never be ruptured in primipera until it presents at the vulva, and in multipera until the cervix is fully dilated; then the rupture will shorten the labor.

WHERE THE TIDES MEET.

BY H. S. LOTT, M.D., WINSTON-SALEM, N. C.

We live in the age of advanced knowledge along all lines of our profession. These lines are chiefly, two—Medical and Surgical. Running as they do, so closely parallel, they should never be strongly at variance, and, converging harmoniously, their blend attains the nearest approach to perfection, which is attainable in the practice of our science.

To-day, we recognize actual conditions, stripped of mystery, and, in a very large number of cases, stripped of uncertainty as well: and we have learned to apply actual remedies, both medical and surgical, for the relief of symptoms and to avert disaster.

Every practitioner of medicine is possessed of some surgical wisdom. It is this wisdom which guides the patient safely through the days of doubt; days in which the symptoms tell us nothing to a certainty, but keep us ever on the watch for one of many possible conditions; and help us finally, by exclusion, as a rule, to recognize either a general systemic infection, or a primary and tangible point for attack.

As our knowledge grows, and with it our diagnostic skill and conception of future posibilities, we recognize a time and a place for surgical intervention in many conditions known to have been confined to the realms of medicine. Notable, among such conditions, are appendicitis (the classical perityphlitis of Gross), gall stones, gastric ulcer, typhoid fever, cervical tears, no longer treated with swab and cautery, ectopic gestation, with rupture, which is never recognized at all, and the woman dies under some ominous title ascribed by ignorance; and many others, including every region of anatomy, and every branch of surgery.

By the lights of to-day we recognize in these the *focus* of pain, the *focus* of infection, and the *focus* of possible disaster, such as rupture, perforation, or malignant growth. Such foci needing, not always, perhaps, the surgeons' knife, but always surely, the surgical wisdom, and the surgical conscience to best conserve the vitality of the patient, and guide to the safest issue.

The "time to operate," for appendicitis, is when the patient has it. Therefore, the want is for greater skill in early, and accurate diagnosis; and more earnest conviction as to the best mode of treatment. The waiting plan, with its placebos and plasters, has cost our country more valuable lives, and given us more cripples than the recent wars, or an epidemic of smallpox.

In the hands of its originator, and advocate, who knows just when and how to wait, it may be comparatively safe; but as teaching to the world, and the masses of practitioners, it bears much danger to the patient.

Typhoid fever, the clinical picture of which is familiar to us all, is becoming each year more distinctly a surgical condition. During the days of onset, which are also the days of uncertainty, treatment is mostly tentative, and our attitude is one of watchfulness; but with the diagnosis once established, we picture the surgical condition that confronts us, and also realize the delicate structures with which we have to deal. A bowel at many points studded with inflamed glands, these glands embedded in the bowel wall, and each one pursuing the three separate stages—of congestion, necrosis, and ulceration; which process may be accomplished either with or without sufficient sloughing of tissue to cause a perforation of the gut, or the opening of a blood vessel.

Now, this condition once established, and recognized, our surgical conscience tells us that the more quiet this bowel is kept, and the less it is disturbed by the irritant contact of foreign bodies passing through its lumen, until these weak-

ened points have regained their normal tone, the less danger there is of fatal accident from perforation or hemorrhage.

Equally as many, if not more fatalities in typhoid fever, occur from one or the other of these surgical accidents, as from auto-intoxication; and the treatment, so commonly in vogue, of giving hard pills and capsules, and of disturbing by purgatives a bowel which should be kept quiet, and emptied, if need be, from below, by a simple saline enema, is largely to blame for the fact.

Treatment, therefore, in typhoid fever, the diagnosis once established, may be simplified into that of the after care of patients who have had abdominal sections; and especially of those in which bowel lesions previously existed, or when the bowel wall is opened by the surgeon, as in the removal of the appendix, to remove some existing condition. This means physical rest for the patient—complete—with the avoidance of all foods or medicines taken into the stomach that will form lumps to be passed through the bowel, or awaken peristalsis.

Accidents occurring, such as perforation or hemorrhage, demand especial consideration. From the former many patients are rescued by operation, with repair of the lesion, and irrigation of the abdominal cavity; and, when hemorrhage occurs, seemingly without perforation, the "opium splint," with an ice bag, and restriction of food and stimulants to the minimum essential to life, for awhile, gives the sloughing ulcer, with its bleeding vessel, the best conditions under which to be restored to normal tone and tissue.

Abortion is a surgical accident. Confronting us, almost daily, it is of prime importance, because of its danger to the patient.

The chief dangers from this accident are two, hemorrhage and sepsis, both of which are best avoided by surgical means. In the beginning, when it is only a threat, and there is still a chance of tiding the patient over, complete physical rest, and

full doses of opium, to check muscular spasm, allay physical pain, and also relieve mental anxiety, promise best for the accomplishment of our end; but when the flow is once established, showing that the placental attachment has been freed, and that the abortion is inevitable, the sooner the uterus is emptied the better it is for the patient.

An empty uterus does not bleed, and a clean uterus is not so likely to become a source of septic infection. Now, in a large number of cases, the uterus will empty itself within twenty-four or forty-eight hours; and sometimes, during this process, an asceptic packing of the vagina will lessen the loss of blood and favor the expulsion of the product of conception, after which a full purgative and an occasional irrigation of the vagina with normal saline solution, if it can be properly given, will bring the accident to a very happy termination. But there are cases in which the natural forces are not so prompt and thorough in their work; the foetus may be expelled, and perhaps a part of the placenta, but there is something left behind, and we have at once, and beyond a doubt, the three foci in one, (viz., of pain, of infection, and of possible disaster, through hemorrhage), which should awaken the surgical instinct in us all.

To let a woman lie and rot from sepsis may seem to those who do not know better a very conservative measure; but to me, in looking back and reviewing their long and tedious convalescence, with perhaps but a partial restoration to health after all, it seems also a very cowardly one. Therefore, after twenty-four hours, if the uterus has not been emptied, nature should have some help in the matter. This may be safely given in many cases without an anaesthetic, using a dull curette, and, starting at a given point, going carefully over the entire intra-uterine surface, and removing all detachable portions of placental tissue; this to be done, of course, with every aseptic precaution, both of toilet and of technique, and followed at once by an irrigation of the uterine cavity with a gallon of normal saline solution as hot as it can be borne,

and a full purgative on the following day. Waiting longer than twenty-four hours offers two sources of renewed danger: First, from continued hemorrhage and primary infection of retained placental tissue,—and our aim should be to remove this tissue before such infection has occurred. And, second, supposing the contents of the uterine cavity to have become septic, each hour of further delay, which favors the softening from infiltration of the uterine walls, increases the danger to their structure in its removal.

The conditions cited are such as confront us daily, but the list may be lengthened indefinitely; and, the better able we become to bring our cases from out the shades of obscurity and doubt, and recognize the actual state of affairs, the longer it will be.

Many cases, for instance, of tubercular peritonitis are treated throughout weary weeks, under the ominous title of "fever"; whereas, by a timely recognition of the real trouble, the patient might be spared much useless medication, and also offered the hope of checking the tubercular process, by opening the abdomen and washing out its cavity with normal saline solution. Just how this helps the matter we do not know, both trauma, and exposure, no doubt, play their part; but that the condition, with its distressing symptoms, is bettered, is beyond a doubt, and the patient is much more comfortable afterwards.

To my mind, surgery means much more than the surgeon's knife; and, to have attained perfection, or even its nearest approach, the surgeon must be possessed not only of the mechanical skill, but also of the wisdom and the conscience, which are equally essential to the successful and life-saving practice of his art.

There are times when it is a much harder task to advise against an operation, than it would be to urge it. But all men do not see things just alike; if they did, there would be little need for consultation at all; and, when the inner consciousness tells us that the patient will live just as long,

maybe longer, and be just as comfortable, without this trying ordeal, the duty becomes a very plain one, and in its performance we not only best serve the interests of our patient, but also sustain the honor and dignity of our profession.

For instance, operations that exchange normal for abnormal positions of important organs. Innocent fibroids, with no pressure symptoms; when the risk of the operation is greater to the patient than the risk of retaining the growth. Cancerous uteri, which have gone beyond the life line, cases of tender ovaries, in young women, where the appendix is removed for a cure. Dilatation of the cervix in virgins, for the relief of menstrual pain; whereas, the menstrual wave, and the menstrual pain, like all of the functions of woman's pro-creative organs, are accomplished in cycles. Just what *governs* the wave, we do not know; and just what *causes* the pain, we do not know; but the very frequent failure of the dilatation of the cervix to relieve the symptom, shows us that the real focus is not here. And many others might be cited, which are swept into the current, in the present day perfection of toilet and technique, with its comparative safety; and the promise it gives of rapid advancement along most attractive lines.

The exploratory incision is one of the greatest evils of improved technique; and also the greatest menace to refinement of surgical wisdom. "We'll just make a hole and peep in," by which resolution the faculties are blunted, and the essential, life-saving diagnostic skill is never attained. "Make your diagnosis, and then cut!" should be the motto of all surgeons.

Therefore, just where the tides meet, in medicine and surgery, will always be a problem, largely for individual solution. Each case is a law unto itself. But the man who makes the best diagnosis, clearly and correctly, recognizing a prime cause, with its localized focus for attack, will also be best able to foresee accident and to guide his patient with safety.

THERAPEUTIC NIHILISM AND THE TREATMENT OF PNEUMONIA.

BY N. P. COPPEDGE, M.D., MARGARETTSVILLE, N. C.

I am going to briefly discuss therapeutic nihilism as a specific infectious disease, which has attacked a large part of the medical profession in this time of enlightenment. I shall say, that while not positively proven, it is probable that the germ of this particular disease is as nearly related to the germ of laziness as the bacillus of Eburth is to the paratyphoid bacterium. Among the predisposing causes, I shall enumerate lack of knowledge of materia medica, carelessness and consequent tardiness in diagnosis, inaccuracy of dosage, the employment of drugs of uncertain strength, the evils of substitution by pharmacists in filling prescriptions, the physian's carelessness in making sure his patient understands and follows his directions, failure on the part of the physician to record and study his cases, failure on the part of the patient to continue treatment as long as necessary, and last but not least poly-pharmacy. It may be said with a great deal of truthfulness that the surgeon often plays the part of intermediate host in infecting his medical brother with the disease of therapeutic nihilism. This may or may not be because the number of cases turned over to the surgeon by the physician for operation will be about proportionate to the square of the latter's belief in the efficiency of measures other than surgical. Under the head of etiology, it would be proper to say something of the distribution of the malady, when it might be mentioned that it is more prevalent among surgeons than physicians, is oftener met with in the city than in the country, and attacks with less frequency those who do their own dispensing than those who do not, and is rapidly on the increase among the laity. Among the symptoms is a noticeably pessimistic inclination to disbelieve reports of cases cured with drugs by brother practitioners without going

to any trouble to prove their truth or falsehood. The prognosis is notoriously bad for surgeons and for practitioners in cities, who allow their pharmacists to substitute *ad libitum* in filling their prescriptions. The best treatment for this disease, which is affecting so large a part of the medical profession, is, as in the treatment of all other diseases, the removal of the underlying causes. First measures should be directed toward the destruction of the germ of the disease, which, as was remarked before, is so closely akin to the laziness germ. Then the predisposing causes should be removed to the greatest possible extent. The surgeon and the practitioner should both study their materia medica more. Doctors should always be careful to give the patient advantage of a correct and early diagnosis, using every means at command that they may learn exactly the patient's condition. Much good can often be effected in cases where early diagnosis is impossible, by giving treatment exactly as if you knew your patient had a disease that you may be only suspecting he has. He ought to be always given the benefit of the doubt and given treatment in uncertain cases, if the treatment is not harmful. The physician should always either dispense his own drugs, using only those of known strength, or send his prescriptions to a perfectly reliable druggist, specifying only such manufacturers as have enough righteousness to label their drugs what they are. He should give written rather than oral directions to his patients, and see that they follow them. If he will do all this, and record and compare the results of the various treatments of each kind of disease, insist upon his patient's keeping up treatment till they are no longer in danger of relapse, and see that they are not partaking of food containing adulterating or preserving substances, which are directly incompatible with his medicine or in themselves productive of pathological conditions, the therapeutic nihilism with which the practitioner is afflicted will either be greatly ameliorated, or his case is complicated

with a degree of mental astigmatism which renders him incapable of recognizing a fact if he meets it in the road. Among the most important remedies in the treatment of this widespread disease of our profession is legislation. We need the enactment and enforcement of pure food laws and pure drug laws. No physician need be surprised to find that his remedial measures fail to benefit a patient who is eating quantities of gypsum, terra alba, alum, borax, formaldehyde, salt petre, salicylic acid, or lead chromate with his daily bread or his daily embalmed beef or pork. If he prescribes aristol, and the druggist substitutes a patent preparation warranted to be just as good, which afterward turns out to be Fuller's Earth colored with a little oxide of iron, no wonder the doctor, ignorant of the druggist's betrayal of a sacred trust, is inclined more and more to medical pessimism. He need not be surprised that patient, possessing an idiosyncrasy against morphine, gets worse when he prescribes a cough syrup with heroin in it, and the druggist puts morphine in place of heroin. And when the State Supreme Court refuses to allow damages when the patient brings suit against the druggist, as was the case in an instance of this kind in the State of New York, his only recourse is to go back to his office a sadder and wiser man and dispense his own medicines.

With all the political power the 120,000 doctors in these United States might possess, if united, we are allowing ourselves and our patients to be deceived, swindled and robbed of health and happiness by these deceivers, with little or no attempt on our part to get the needed legislation to stop it. Our enemies are well organized, and are presenting a solid front against our irregular onslaught. The Patent Medicine Association are the manufacturers of impure foods and drugs have so far prevented any adequate laws regulating the sale of patent medicines, impure food, or impure drugs from

passing through Congress. To show how inadequate the present laws are, Commissioner Sinclair, in his report to the committee which has been investigating the affairs of the beef trust, says that poisoned rats are daily ground up in the sausage made by that concern, and that there is no law by which a government inspector can prevent it though it occur under his very eyes. We have laws to prevent diseased meat being shipped from the United States to foreign countries, but none worth talking about to protect our own people from even more dangerous practices than the sale of measly pork.

It is, however, a matter of the highest importance to both the medical profession and the public that the alarming spread of therapeutic nihilism among the laity should be stopped, first, of course, because unless we stop it our revenues will be cut off; second, we want to stop it, because, having at heart the interests of our fellowmen, we wish to keep them from straying off after the false goods of osteopathy, faith cure, Christian science, Weltmerism, Dowieism, homeopathy and patent medicines.

Another thing I want to bring up while discussing the treatment of therapeutic nihilism, is that we country doctors ought not to leave all the experimenting in the use of drugs to the city and university investigators. Where little or nothing is known about the therapy of any particular disease we are justified in doing a little experimenting with drugs hitherto unused in the treatment of the disease in question. Trying different remedies in rotation without reference to their physiological action has been more than once rewarded by the discovery of apparent specifics. Country doctors ought to record their cases and report through the usual mediums the results of their experiments, in order that they may learn from each other.

In no other disease can experimentation with drugs without reference to physiological action or previous therapeutic applicability be more completely justified than in pneu-

monia. We are aware that it is the most frequent and fatal of all diseases. We are calmly assured by the writers of text-books that "drugs in no way influence the course of the disease," and "that it can neither be aborted nor cut short by any means at our command."—(Osler.) On the other hand, these same writers assure us that it frequently is aborted or cut short by the natural forces of the body, as is witnessed by the number of cases of larval pneumonia, and by other cases in which the crisis comes as early as the third day. This, our learned writers claims, may happen in spite of drugging, but never on account of it.

Whether this is true or not, time will show. But if all of us would do a little experimenting and report our cases, I believe a specific of considerable efficiency would be discovered.

I am here to set the example by reporting the results of my experiments in the treatment of pneumonia since I graduated three years ago. Every case of pneumonia I have had to treat in those three years I have given creosote. The only case I have lost was an aged woman, in whom the infection was so severe that after the initial chill she did not recover consciousness during the five days of her illness. Many of my cases, I saw only once, so efficient was the treatment, and so quickly did they begin to convalesce; others had a fairly typical course. Some improvement, however, was almost always apparent within a day or two after commencing the use of the drug.

I was first told of this use of creosote by Dr. R. E. Mason, of Charlotte, N. C. With him I saw about five cases, his report of which I will give here:

Case 1.—Age 10. "Broncho pneumonia. Treated for one week on the regular treatment with no results, and I had given patient up to die. Temp., 103½; pulse, 140; resp., 48. Was placed on 3 minims of Mercks' Beechwood Creosote in dr. 1 of Wine Cod Liver Oil every 3 hours. Results: In 36

hours pulse, temp., and resp. were practically normal. Temp. only 99 degrees."

Case 2.—Age 11. "Broncho pneumonia. Also treated by old method for about one week with poor results. I placed patient on same treatment when temp. 104, pulse 130 and resp. were 50 per minute. In 24 hours the temp. was 99½, pulse 90 and resp. 22."

Case 3.—Age 45. Lobar pneumonia. "I saw this case in less than an hour after the chill. It was treated unsuccessfully for 36 hours with Tr. Veratum (*not* Norwood's). Results of this treatment was to cause the following condition: Temp. 102½, pulse 90 and resp. 36. Patient was then placed on 5 minims of creosote in an *alcoholic menstruem,* and in 24 hours the following symptoms were present: Temp. 99, pulse 85 and resp. 24. The patient was then taken off the treatment and the whole train of symptoms *immediately* returned and as *immediately* disappeared when placed on the creosote treatment the second time. Crisis occurred in this case in 60 hours, or in other words, in 2½ days from the inception of the case."

Case 4.—Age 6. Broncho pneumonia. "When I saw this case the patient had been ill for ten days, and I found temp. 104, pulse 150 and resp. 60. I placed this patient on 3 minims of creosote in Liq. Peptonoids and did not return in 48 hours. On the second visit I found everything so near normal I did not make a third visit. I had another case, but have mislaid the report, so I can not give you that one, but will add that I have treated pneumonia this year on the same plan and have not lost a case of pure pneumonia."

I will call your attention to the fact that it must be given in an alcoholic menstreum, and when administered that sweet milk is the best, as it is incorporated in the curd and is slowly dissolved, and in that way does not irritate the stomach so much.

"I have used other creosotes than Mercks' Beechwood, but did not get such good results. It usually takes 48 hours for the creosote to get its full action, but it usually shows some effect in 24 hours.

My principal object in reporting these cases is that I may hear the merits of this treatment discussed. If others here have had any experience with this drug in the disease named I will consider my efforts well rewarded if they will give the Society the benefit of their experience with it.

But if their experience is such as it makes them doubt its efficiency, I wish to ask if they used a reliable Beechwood Creosote. Much of the creosote on the market is adulterated with carbolic acid. In nearly all the cases I treated I used Mercks. It may be that Parke, Davis & Co.'s is equally as good.

VESICAL CALCULUS IN THE FEMALE WITH THE REPORT OF A CASE.

BY Z. MARVIN CAVENESS, M.D., WAKEFIELD, N. C.

Vesical calculus is a misfortune that may befall every age and condition of human life from the fœtus in utero to the old and decrepit. They are concretions of the various inorganic substances which are common in the urine, and organic particles, such as epithelia, mucus and various inflammatory products, often enter into their formation.

Calculi are less common among women than among men. This fact is probably due to the shortness, great size and dilatability of the female urethra; on account of which small calculi may readily pass out.

Aetiology.—In this two great factors are recognized: The one includes all conditions of the economy which favor precipitation of the inorganic elements of the urine; the second, all inflammatory lesions or conditions which produce decomposition of the urine in the bladder, the detachment of epithelia, and the accumulation of other organic elements which serve as nuclei, around which the salts of the urine are congregated.

In the first category may be mentioned some hereditary tendencies, such as gout and rheumatism. And certain conditions of malnutrition undoubtedly lead to a precipitation of the urinary salts.

But according to the researches of Rainey, Horting, Ord and others the indication is, that the formation of stone is not a simple process of deposition of salts existing in excess in the urine. Indeed, instances are of every day occurrence in which uric acid, urates, oxalates of lime or the phosphates are present in solid form for long periods of time in the urine without leading to stone formation. The investigation of these observers have shown the crystalline substances of the urine to follow the law of molecular coalescence laid

down by Rainey and elaborated by later observers. Which is, briefly, that in the presence of calloid or albuminoid substances crystalline materials become spheroidal in shape and coalesce in rounded form. Following this law in the urinary passages crystals of uric acid in their usual rhomboidal shape may for long periods be thrown down, washed along and passed out with the urine without showing any tendency to form concretions. Finally the irritation of the urinary tract, if not already present from some of the many local ætiological factors to be mentioned later, leads to the exudation of albuminoid material, which, acting on the crystals, changes their molecular form and creates in them the tendency to coalesce. The calculi once started continues to act as an irritant to the wall, and so continues to be supplied with an albuminoid envelope in which successive layers of spheroidal crystals are deposited.

In the group of local causes may be classed all cystic diseases in which the products of inflammation collect in the bladder and form nuclei, around which concretions occur. Cystitis and decomposition of the urine, obstruction and inflammatory lesions of the urethra which may involve or affect the integrity of the bladder, the presence of any foreign matter in the bladder or paralysis of the bladder from any cause, or vesicovaginal fistula.

Pathology.—They may form in any part of the urinary tract. When they originate in the kidney they usually find their way, sooner or later, into the bladder. This may be accomplished painlessly or may be accompanied by severe pain (Nephritic colic). After reaching the bladder they usually pass out through the urethra and cause no further trouble, or remain and gradually increase in size until their presence are revealed by symptoms to which they give rise. A calculus thus retained in the bladder continually grows by accretion. So long as the urine remains unchanged in reaction the character of the calculus continues the same; when,

however, the urine, formerly acid, becomes alkaline from any cause, the phosphates or soft salts are deposited on the hard or basic salts of calcic oxalate or uric acid.

They may be roughly divided into two classes: First, those that form in the acid urine; and second, those that form in the alkaline urine. In the former we have the uric acid and oxalate of lime calculi. The uric acid calculus is generally firm, but brittle, with a tolerably smooth surface. The oxalate of lime calculus is hard and usually covered with rough, often sharp projections, giving them a knobby, irregular outline which has suggested their distinctive name of mulberry calculi.

In the latter, or alkaline urine, we have the phosphatic calculi. These are usually smooth, soft and friable; and their formation is almost invariably the result of some inflammatory condition in some part of the urinary tract leading to alkaline fermentation of the urine.

A stone composed wholly of anyone of these constituents is, however, not common, the usual condition being a mixed form in which uric acid or oxalate of lime nucleus is covered by a phosphatic crust. Sometimes a succession of layers may be formed by alternating deposits of different components. The phosphates are almost always combined with the alkaline urates or carbonates.

Symptoms.—The symptoms of stone in the bladder are, first, *pain.* This is especially severe at the end of micturination, when the bladder wall closes down upon the rough surface of the calculus. The pain is often referred to the perinim and rectum. It is usually much increased by violent movements or jolting, as in riding.

Secondly. *Frequency of Micturination,* which may or may not be diminished by rest in bed.

Thirdly. *Haematuria.*—The presence of blood in the urine is intermittent. The urine may be a wine-red or smoky color, or the blood may be contained in the last few drops

of urine passed. Hemorrhage is likely to appear after exercise or jolting. As a confirmatory symptom may be mentioned, sudden stoppage of the stream in the midst of micturition, caused by the calculus falling against the urethral opening.

Diagnosis.—It may be stated at once that, however much has been and may be said of the value of the various symptoms of calculus the diagnosis rest upon one simple expedient, the introduction of a metallic instrument into the bladder and in contact with the calculus. A bimanial examination between the hand over the pubes and the finger in the vagina will often reveal the presence of a calculus of any size.

Treatment.—After the formation of a calculus too large to pass through the urethra, its removal can be accomplished only by some mechanical expedient. The solvent action of alkaline or other remedies has never been shown to destroy a stone that has been proved to exist.

Small calculi uncomplicated with cystitis, may be crushed and removed through the urethra. Large stone should be removed by cystotomy. Whenever cystitis is present it is advisable to perform cystotomy and make a permanent fistula until cystitis is cured, when the opening may be closed.

REPORT OF A CASE.

History.—Mrs. S., widow, aged 52, previous history negative as far as nephritic colic, cystitis or calculus is concerned; but went to hospital August 4, 1904, and had an operation for fibroid of the uterus. The operation consisted in a complete hystorectomy along with its appendages. During the operation, while breaking up the pelvic adhesions, a hole was torn into the bladder. This was repaired, but for some cause did not close and a permanent fistula followed (vesico-vaginal).

Improved slowly for some weeks but suffered much pain with bladder. Left hospital October 13, 1904, but had to go back October 20, 1904, for treatment of the bladder, and

left the second time November 28, 1904, much improved but not well, and still under the supervision of her doctor and nurse until the last of February, 1905, when she was able to get to her home, Wakefield, N. C.

In a short time the bladder trouble began to give her much pain and she called her family physician, who treated her until the last of April, 1905, with very little results, when he insisted that she return to the hospital. It was then that I first saw this patient and found her suffering all the agonizing pain of acute cystitis, not being able to get any rest day or night, except under the effect of some opiate. And in a very weak, nervous condition, caused by the operation and protracted suffering through and under which she had gone.

From the history given I suspected stone in the bladder and examined for same, but found no trouble except the cystitis. At this time the bladder wall was so much inflamed the fistula seemed to be closed from the swollen congested condition, and there was no leak. I told her she was suffering from acute cystitis and saw no reason why she should not be treated in her home as well as at the hospital, and at once put her on treatment under which she gradually improved. Was able to be up in her room in week or ten days. When the cystitis was relieved, to great extent, I then gave her treatment for the weak, nervous and depraved condition she was in when she came from hospital, and under this she improved rapidly. As she began to regain her strength and nervous vigor the cystitis seemed entirely relieved, and I discharged her the last of June, and saw her only occasionally during the summer.

Some time in the fall the bladder again began to give her some trouble, but not so much as she had suffered before, and she worried along until November 20, 1905, when she passed a small calculus and again called me. On bimanial examination I detected a mass in the bladder, and from symp-

toms given my diagnosis of calculus was confirmed by the introduction of a metallic instrument into the bladder and in contact with the stone.

On November 24, 1905, I performed cystotamy by enlarging the already small vesico-vaginal fistula and removed a calculus (phosphatic) about the size of a guinea egg. The opening was left open and a permanent fistula formed which gave free drainage to the bladder. The bladder was irrigated for 10-12 days daily with warm Boric acid solution for the accompanying cystitis. The cystitis improved rapidly and the convalescence from the operation was uneventful, save on the 10th day after the operation had a profuse hemorrhage from the bladder, but this was controlled by packing.

The cystitis is now well. The patient has regained her former strength and vigor. The vesico-vaginal fistula will be closed by secondary operation.

THE EARLY DIAGNOSIS OF PULMONARY TUBERCULOSIS.

BY W. M. JONES, M.D., HIGH POINT, N. C.

In the selection of this subject I do so with the hope that, to some extent, a closer investigation may be sought and more definite results obtained. Any question relative to pulmonary tuberculosis is an important one, and the above is no exception, unless it be on account of its priority. The most important question before the medical profession of to-day is, The Prevention and Cure of Tuberculosis. This is a question of such vast importance that no city of any prominence is without its society for the study and prevention of tuberculosis. There are State societies, national societies and even international societies organized for the study and prevention of this disease.

Only a few months ago there was held in the city of Philadelphia a tubercular exhibition, from which not only our profession, but the laity were able to see and have explained to them the pathology and course of this disease, by one who was competent to make it clear to the most obtuse mind.

It is important on account of its antiquity, having existed since the time of and before Hipprocrates. He was the first physician to teach that it was curable, and he even went so far as to outline a course of treatment. A great part of his theory has been discarded during the time that has elapsed since he lived and taught. But to-day we recognize the wisdom of some of his ideas and see the clear and sound reasonings of the doctrines which he extolled centuries ago. He did not teach that it was curable in any of its different stages, but "that it was curable, provided it was treated at a sufficiently early stage." Carswell in 1836 wrote: "Pathological anatomy has never afforded stronger evidence of the curability of a disease than in the case of phthisis." This assertion has ever been supported by pathologists.

Important as to mortality: causing the death of one of every seven persons who die. In the past the mortality statistics have ranged as high as 44 per cent. Here we see the necessity of self-preservation, which is the first law of nature. Being as it is essentially a disease of civilization, we as civilized and educated beings should not let it get the mastery over us. It is different from other plagues that have scourged the world, in that they were limited either as to geographical location or race. Whereas the great white plague has no limit, either as to location or race, but reaps its victims from all classes—the highest to the lowest, the negro to the Anglo-Saxon, the babe at the breast to the old man in dotage; none are exempt. In order that these deleterious effects may be lessened and that the great white plague go the way of all other scourges that have arisen to molest and destroy man, it must be detected in its incipiency; for then and then only are we going to eradicate it, and it will be known only as a rarity—a medical curiosity.

In 1856 Brehmer wrote a thesis, "Tuberculosis primis in stadis semper curabalis." That which he held 50 years ago is true to-day.

Many difficulties are met with in making a positive early diagnosis of pulmonary tuberculosis, for the clinical indications of the pathological conditions are not well marked. This has caused many to accept the erroneous idea that no one except he be an expert or specialist could make a diagnosis in the incipiency.

The general practitioner may not be as accurate as to the exact pathological conditions that are present, nor as capable of as correct a prognosis, still he can by close attention to details and a pains-taking physical examination arrive at a conclusion which is positive; and this at a time when a cessation may be expected. Nothnagael has said, "Faulty diagnosis due to superficial examination and hasty observation is without excuse." So it depends on the general practitioner

how soon we are to have a cessation of the high per cent of mortality and a higher per cent of cures.

During the spring of 1905 a committee was appointed by the "National Society for the Study and Prevention of Tuberculosis" to draft an outline of symptoms whereby an early diagnosis might be made and at a time when a favorable prognosis could be expected. The following were adopted by the society:

1. "Slight initial lesion or lesions, in the form of an infiltration, limited to the apex or a small part of one lobe."
2. "No tubercular complications, slight or no constitutional symptoms."
3. "Slight or no elevation of temperature, especially after rest."
4. "Slight or no expectoration."
5. "Tuberculæ bacillæ: may or may not be present in the sputa."

These are all most excellent points, but do they not suggest the question as to how we are to get the patients at so early a time, and when found how are we to make the diagnosis?

There are at least five (5) points, upon any two of which an early and positive diagnosis may be made.

1. Persistent, irregular fever.
2. Hæmophthisis.
3. Persistent crepitant rales, increased resistance and the mucous clic.
4. Presence of tuberculæ bacillæ in the sputa.
5. By the use of Koch's Tuberculin.

Any one of the above enumerated points, when associated with suspicious symptoms of tuberculosis, is sufficient ground whereon a positive diagnosis of pulmonary tuberculosis may be made. It will be convenient to discuss these several points in greater detail.

Whenever there is persistent, irregular fever a positive diagnosis of pulmonary tuberculosis should be made. This is one of the most important symptoms, and is among the

first to appear. In order that it may be ascertained with any degree of certainty the measurements must be recorded every two hours, from 8 a. m. to 10 p. m., for at least one week. Then no matter how small the amount of infection there will be seen at some hour of the day a slight rise in the chart. Frequent rise of mouth temperature to 99.3 or 99.5 during rest must be regarded as fever. In the majority of cases the mouth temperature during rest will not exceed 99 under normal conditions. Do not be misled by the idea that the temperature will always be higher during the afternoon than at any other time, for it is not always the case. Generally it is at its highest between the hours of 4 and 8 p. m. Do not lose sight of the fact that the external temperature exerts some effect, for it most certainly does; not only on tuberculous subjects but on those who are presumably in normal condition. Nor should any reliance be placed in these one and two-minute thermometers, so-called, for if you will permit them to remain in the mouth or rectum for five minutes you will see a rise of at least .2 to .4 degrees, if the Fahrenheit scale be used. Frequent causes of rise in temperature are menstruration and digestive disturbances. There is no possible chance of confounding this condition with anything else, for there is no disease that runs a temperature record like that of pulmonary tuberculosis. There will be other signs and symptoms that will verify the diagnosis and make it absolutely positive. Whenever the chart shows a record of sub-normal, normal and a slight rise every day, for at least one week, it can be nothing else but pulmonary tuberculosis.

Hemoptysis Hemorrhage.—This does not always appear, but whenever it does, no matter how small the amount, a positive diagnosis of pulmonary tuberculosis should be made, with the provision that its origin cannot be clearly demonstrated. I am aware of the fact that some few cases of hemoptysis do occur in which the subjects do not subsequently develop tuberculosis. But in the light of our pres-

ent knowledge and the report of statistics it will be clearly seen that, though these cases did not to all appearances develop tuberculosis, that it is more than probable they were simply incipient cases of this disease. For when we realize that 98 per cent of the inhabitants of the world show tubercular lesions, and that only about 18 per cent die from the disease, there is yet 80 per cent that have tuberculosis that have not been accounted for; so it is in this 80 per cent of cases that recover that the cases of hemoptysis occur that are reported to occur and never to have had tuberculosis. Therefore it seems plausible to call all cases of haemophthisis tubercular, and by so doing our percentage of error will be exceedingly small, and at the same time patients in whom the hemorrhage was really due to incipient pulmonary tuberculosis would not run the risk of having treatment postponed until the time when the disease had produced great destruction of tissue and the chances of recovery commensurately diminished. Whenever a patient is seen who has had a hemorrhage from the mouth we must ascertain by a process of exclusion as to its pathological origin. This may be done by ascertaining:

(a) The manner in which the blood was brought up.
(b) Character of the blood per se.
(c) Previous history of the case.
(d) Subsequent course and symptoms.

By so doing we are enabled to arrive at the correct conclusion of the case and the cause of the hemorrhage, and are thereby enabled to make a positive diagnosis.

Persistent crepitant rales, with the addition of the so-called mucous clic, and associated with diminished resonance and an increased resistance, is sufficient data whereon a positive diagnosis may be made. The important point is the persistent crepitant rales, especially when heard in the posterior species and accompanied by the other signs enumerated. Crepitation must be present at two or more examinations,

always at the same location, and which does not disappear on coughing. Emphysematous areas are cleared by the act of coughing, and are therefore not persistent. The condition that is known as post-tussic crepitation is of great value in making an early diagnosis, but it must be persistently at the same location. By the act of coughing we are often enabled to obtain a slight degree of crepitation or moisture; whereas before the act there were no perceptible changes in the breath sounds.

Crepitation is of more value when heard at the apices, and there it is better heard from the posterior aspect.

There is no other condition that presents the above enumerated signs, and that being the case whenever these signs are found to be present it is evidence conclusive that the case can be none other than one of pulmonary tuberculosis.

Do not attempt to make your diagnosis from one examination no matter how thorough that may be; nor from two or more careless examinations; but after two or more close and careful examinations you are satisfied that you have the above signs present at the same location you may make a positive assertion that the case is none other than one of pulmonary tuberculosis.

Presence of tubercule bacilli in the sputa, no matter what signs or symptoms may be present.

Von Strunyell says, "At the present time the examination of the sputa for tubercule bacilli plays the most important role, and the only decisive one, in the recognition of commencing phthisis."

Von Ziemssen says, "It may rank as one of the best established rules of diagnosis that tuberculosis may be excluded in any case of lung affection in which a scientific and skillful examination fails to demonstrate the presence of the tubercule bacilli."

There are one or two exceptions to the above statements, viz.: Primary tuberculosis of the mouth and its appendages.

This, however, is of minor consideration, for if tuberculi bacille are fully engrafted in the mouth or on the tonsil they will in a very short time find lodgment in the soft, spungy tissues of the lungs. It has been my experience that primary tuberculosis of the mouth or appendages is exceedingly rare, and in the majority of cases it is simply a secondary affection to that of the lung. However this may be, it is of no great importance, for if tubercule bacilli are found to be in any of the excretions of the body it is positive proof that a tubercular focus is present. Then it behooves us to make a positive diagnosis of tuberculosis whenever the tubercule bacilli is found to be present in the sputum. It answers to every requirement of Koch's Dictum, and that being the case there is no ground for a discussion as to whether it be tuberculosis or not.

So we see that whenever the above is found to be a fact a positive diagnosis is not only justifiable but is demanded.

Lastly by the use of Koch's old Tuberculin.

Objections have been made to the use of this by such noted physicians as Virchow. He made the assertion that it caused a generalization of the disease. This has since been proved to be erroneous and entirely without foundation.

Tuberculin is dangerous and should not be used indiscriminately nor in advanced cases with mixed infection and which are running a febrile course. For here is in all probability where Virchow made the mistake that prompted him to make the assertion that he did in regard to it causing a generalization of the disease. We know that on account of the damage it did when given in large doses, as was at the time it first came into use, caused it to fall into disrepute. We now see where the error occurred and have to some extent overcome the skepticism that has prevailed in regard to its use. It should be used as a diagnostic agent only at a time when other methods have failed.

But whenever the infection is so slight that a positive diagnosis cannot be made by a close physical examination and

no tubercule bacilli appear in the sputa, then one, two or even three injections of Koch's old Tuberculin may be employed without the slighest risk. Osler has said that he regarded Koch's old Tuberculin as a safe and efficient diagnostic agent. There is no case on record so far as I have been able to ascertain where, under proper precautions and favorable conditions, harm has followed the use of the injection. Before making use of Tuberculin as a diagnostic agent the case should be closely studied. The temperature should be recorded every two hours for at least one week before the injection is made.

The old Tuberculin of Koch is diluted with 0.5 per cent carbolic acid solution till a 1-per-cent solution of tuberculin is obtained. 0.001 c.c. or 1 millegram of this is used for the amount of the first injection, for it is not necessary nor desirable that the reaction be more than sufficient to make the diagnosis clear. The temperature should be recorded every two hours as before. A rise of 1 degree F. must be considered as a positive reaction; in exceptional cases this rise may be delayed for 36 hours. Coincident with the rise in temperature there is an increase in moisture over the affected area. This is claimed as a positive reaction, even though there be no perceptible rise in the temperature. The second injection may be made in a week or ten days, using 0.003 c.c. And in the majority of cases this will be all sufficient to produce a positive reaction, and consequently a positive diagnosis.

Sticker has obtained the same results, in regard to the local reaction, with small doses of Potassi iodidi. He administers small doses for three or four days when signs of local catarrh are heard over the suspected areas.

Vetlesen claims it to be positive in all cases of pulmonary tuberculosis. I have made use of it in only a very few cases, and find that it produces an increase of moisture and an apparent increase in the tubercule bacilli of the sputa.

IMMEDIATE AND REMOTE INFLUENCES OF COUNTY MEDICAL ORGANIZATIONS.

BY J. C. GRADY, M.D., KENLY, N. C.

Mr. President and Gentlemen of the North Carolina Medical Society:

I desire to call your attention to the apparent splendid results that our County Organization has already accomplished throughout the State, as manifested by the largely increased attendance at this meeting of our State Society.

Heretofore, as many of you know who are familiar with the circumstances, the main body of the work done at our State meetings has been performed by a few of its most zealous members, who deemed hardly any sacrifice too great which would enable them to attend the regular meetings of the State Society. And this class of its membership have been carrying almost the entire burden of the society work on their shoulders to the shame and to the detriment of many other equally competent men who through carelessness, diffidence, lack of zeal or something else, have stood off and contented themselves with being mere spectators and figureheads, while some have not come at all; and others still have allowed their membership to lapse from non-payment of dues, their names to be dropped from the register, and have become non-affiliates and back numbers in the profession, thereby losing much of their social and political influence as physicians in the profession and society at large. Now this condition of things is wrong and should not exist. It is not only a hurt to the individual medical man himself, but to the profession as well. For a non-affiliating medical man is to the practice of medicine about what a backsliding church member is to the church and the principles for which it stands, a hindrance, a demoralizer, a drawback, and a positive disgrace.

Because the medical profession, in order to wield its greatest influence for the profession itself and society at large,

should stand together on all questions medical if they would merit and retain the esteem and confidence of the general public and subserve their own highest interest; and not allow themselves to be torn asunder by petty jealousies into contending factions, nor suffer themselves through carelessness in attending their State and county meetings to become non-affiliates and back numbers in their profession.

For, "As iron sharpeneth iron" so also does medical association sharpen our medical wits; and I am exceedingly gratified to note that this condition of things is rapidly passing away, and I believe the change has been wrought largely through the instrumentality of the organized County Society and the State Societies newly inaugurated policy of sending out special invitations to each individual county member to prepare a paper of some kind or participate in some way in the exercises of each State meeting. To the end that each member may become personally interested in the doings of the society and feel that his presence is necessary for other purposes than simply to stand up, vote and be counted; each member should feel that the State Medical Society is as much his as anyone else; and the members from the rural districts, the country physicians, should be induced to feel just as much interest and take as much part in the proceedings as their more fortunate and perhaps better-equipped city neighbors.

For it is indeed to the country physician that does a general practice we must ever look for that conservatism in medicine which acts as the great balance wheel to medical progress and keeps the pendulum of medical thought from swinging too far in one direction. For the field of specialism while filling a very important niche in the medical structure offers a very favorable soil for the propagation and growth of the faddist and medical extremist. Many of our most important and useful inventions and discoveries have been wrought by men who at the time occupied the lower walks of the profession.

Conspicuous among such characters are Genner, Harvey, Lister, Smith, Simms and a host of others too numerous to mention. Therefore it is evident that no matter what rank or position we occupy in the profession we should never feel discouraged, for it is our imperative duty to do the best we can under any and all circumstances with the talents God has given us and the means at our command, as we shall be judged not according to the number of our talents but for the proper or improper manner in which we have used the ones we have. Therefore it behooves us under any and all circumstances to do the best we can. And after having done this we, from a standpoint of duty, have done as well as anybody, even "angels could do no more;" and we should be satisfied with ourselves, and others should be satisfied with us; as it is neither possible nor expected that we should all be Bilroths, McGuires, Pasteurs or Oslers; yet there is a sphere in which each one of us can operate, and if we fill that sphere creditably and according to the best of our ability nothing more is required at our hands.

> "Honor and fame from no conditions rise,
> Act well your part, there all the honor lies."

President Lincoln's motto "In union there is strength" is just as pertinent to the medical profession to-day as it was to the American Union in 1865; the axiomatic truth of which declaration we all saw demonstrated in our war between the States. Had our then cherished idea of secession and dissolution of the Union, so hotly and so nobly contended for by our brave heroic fathers, prevailed, had the success of the Confederate arms prospered at Gettysburg and Appomattox, and had the Union of the States been broken up, we perhaps would never have witnessed the splendid achievements of our army and navy in Havana Harbor and Manila Bay; nor to-day be classed as the great power we are among the nations, the wonder and admiration of all the civilized world and the leader in all international thought.

And from this far-reaching and world-renowned incident, we, as physicians, may glean a wholesome lesson on organization and professional unity, because principles remain ever the same.

Some of our ministers define religion as "the church at work," and if this be true it is no less true that the best definition of medical progress is the whole profession thoroughly organized and aroused to the great possibilities and opportunities which are theirs, should they arise to the highest and fullest measure of professional success attainable.

Therefore we must awake from our stupor of indifference and shake off this nightmare of lethargy and laziness and aspire to greater and grander things.

So many problems are yet unsolved, so many fields yet unexplored that are ripe for the sickle of medical discovery, and so many battles are yet to be waged against disease, inviting the medical science to the conquest, that the young men, the old men and the women of the profession should buckle on their weapons of warfare and investigation and hasten to the conquest. Each local medical society should, if possible, have its chair of Microscopy, Bacteriology, Chemistry and Materia Medica, Pathology and Toxicology; and each County Society should vie with its neighbor in its zeal for medical research and scientific discovery. Tuberculosis, the unconquered scourge and enemy of the race, Epilepsy, Cholera, Cancer, Leprosy and many other deadly diseases are still abroad in the land, and the people are looking to us for their prevention, suppression and cure. And how much more creditable it will be for us as physicians to lay down our little petty jealousies and animosities and professional bickerings and come together in our County Societies as a determined band of earnest investigators and brothers, working together in perfect harmony and mutual helpfulness in the noble cause of annihilating disease and ameliorating the sufferings of the race; and thus forever wipe from the fair name of our

profession that foul stigma that has somehow fastened itself upon us as being the most jealous of the professions.

Our societies should migrate over each county; our meetings should be somewhat of a public character, and our subjects of discussion should be made known through our secular papers, that the character of the work we are trying to do may become common knowledge and that we may disabuse the laity's mind of the erroneous idea that medical societies are a species of medical trust, as some secretly believe and as others openly avow, organized for purposes of personal aggrandizement, class protection, political preferment and revenue only.

We should act and talk in such a way that the people may not become prejudiced against us, but made cognizant of our zeal and honesty of purpose in the promotion of medical science, the uplifting of our profession and the betterment of mankind, to the end that they may at any and all times be ready and willing to help us in securing such needful medical legislation as may be necessary for the furtherance of science and the highest good of society.

But, I am constrained to think, before we can induce the people to become in harmony with us we must get in harmony with ourselves and forever put an end to such disgusting and disgraceful scenes as that of a doctor trying to gain the ascendency over his competitor by ridiculing, backbiting or belittling his predecessor or his treatment. Such conduct is not only unethical and uncalled for but in every way unbecoming a true, high-minded physician, and frequently reacts with disastrous effect upon the individual himself; the laity generally being shrewd enough to see through this veneer of pretended superiority and discover the hidden jealousy beneath, so that we often see "Haman executed upon the same gallows he had erected for Mordecai."

As I have said before, it is a matter of regret that the medical profession has acquired for itself among the laity

at large the reputation of being the most jealous of the professions, and I am sorry to have to admit that the physicians themselves are largely responsible for this very deplorable state of affairs, oftimes by their own unguarded and imprudent speech, and oftimes by giving heed to a tattling, meddlesome clientele who have always an axe to grind at one or another doctor's expense.

Most of you who have practiced medicine long are aware that in almost every community we have a class of individuals very aptly described by the name of dead-beats and suckers who prey upon first one physician and then another, as they locate in their communities, and pay for their medical service by keeping up a perpetual warfare between the doctors in that community by a very adroitly planned schedule of flatteries and denunciations, and the repetition from one doctor to the other of derogatory statements, purporting to come from the other doctor, whereby the doctors and the whole community are kept in a constant state of unrest and disturbance to the great delight and sometimes advantage of these scheming suckers.

Some of you no doubt have been up against just this kind of a character, and have felt nonplussed as to how to meet his merciless attacks, but thanks be to the medical (Gods) we have found a panacea, a certain specific, against this very annoying medical pest in the shape of our County Society and black-list; in other words, *Medical Organization*. And if the doctors will stand together in our county societies we can forever rid ourselves of these heartless and ungrateful suckers who have preyed too lavishly upon the bounty and energies of the profession all these years.

We must assemble ourselves together oftener and keep in closer touch with each other, meet each other face to face, talk to each other heart to heart, visit each others' offices, get a better understanding of each other, learn more fully that our interests are mutual and interdependent, that none

can injure his neighbor without injuring himself, and that we all, like the links in a chain, are (or should be) linked to our fellows if we would fulfill our highest destiny as physicians, remembering the scriptural injunction that a house divided against itself shall not stand; and until we do this our profession can never rise to that high plane of usefulness and dignity to which it justly belongs.

I can see in my own County Society already that this improved spirit of professional courtesy and brotherly love is beginning to permeate and leaven the whole lump.

Men who before the organization of the County Society would hardly speak to each other on the street, much less meet each other at the bedside in consultation, are now the best of friends and on the best of terms, and all due to nothing else in the world than a better acquaintance with each other, brought about through the agency of the County Society; and on every hand is noticeable this improved spirit of material and fraternal advancement in every department of our work, especially is this the case with the quality and number of papers produced and the discussions evoked at the county meetings; each member seeming to enter into the work with more spirit and zest than formerly. And in the matter of regulating *professional fees*, insurance and otherwise, there seems to be a growing tendency toward conformity, which item alone, if carried out properly, will more than compensate us for all the trouble and expense of our Society.

On every hand we see unmistakable evidences of a grand stride forward along ethical, material and scientific lines.

So much has the conditions improved in our Society during its official existence that it is not altogether speculation to predict that in the very near future to be a member of a live, wide-awake, up-to-date County Medical Society will be almost equal to taking a regular post-graduate course.

Each year we must see to it that some one from each society spends a few months in special training, to the end that they return to the society and give those who could not

go the benefit of their increased knowledge and newly-acquired medical skill; and we should have our Society reinforced from year to year with one or two new men from some first-class post-graduate institution, thereby keeping us and our Society in close touch with all the latest improvements in medical science, at little cost and untold benefit to ourselves and patients, making us as faithful laborers for the people worthy of our hire.

And, unless I misinterpret these influences and the signs of the times, it will not be another decade before we as physicians shall have attained to a much higher degree of proficiency in the science and art of healing the sick than we enjoy to-day, and all because of increased zeal, greater concentration of efforts, improved methods of investigation, a closer acquaintance with each other, and a more thorough and complete organization along all lines, brought about by the official County Society.

COTTON-SEED OIL IN THE TREATMENT OF PULMONARY TUBERCULOSIS.

BY C. D. THOMPSON, M.D., LOWESVILLE, N. C.

Mr. President and Gentlemen of the North Carolina Medical Society:

I wish to take just a few minutes' time in the presentation of a short paper on a subject that I have never heard brought up or discussed by this body, that is the use of cotton-seed oil in the treatment of pulmonary tuberculosis.

I have used it in the treatment of these cases for about three years, deriving much benefit from its use in most cases. I give it in properly selected cases, those seen in the early stages, in doses from one-half to one ounce, combined with beechwood creosote in proper dosage, after meals, increasing to toleration. After using this a while the cough checks wonderfully and most patients improve to a most marked degree. Of course I treat any symptoms that may arise with suitable measures, as indigestion, for which the diet is regulated, and tonics and digestants given as indicated. If there is any heart-weakness to require treatment I use stimulants in the form of whiskey, strychnine, etc. I have noticed that in cases where night-sweats were present that after using this treatment for a while the sweats subsided. No patient using the oil has objected very much to its taste. I have been using the ordinary purified oil, but think an emulsion would be more palatable. I have used the oil in the treatment of several cases, one of which I wish to mention, that will illustrate the benefit derived from its use.

The case of a man of spare build, weight at beginning of sickness about 117 pounds; no hereditary taint of consumption; family history good. Patient had been in good health until July 4, 1903, when he had a chill with elevation of temperature to 102 F., after which there was a slight eleva-

tion of temperature in the afternoon for some time. He became better and worse at intervals, until in November, when he grew very much worse, was confined to bed, developed a cough—he had had none before—microscopical examination showed tubercle bacilli in sputa. There was some soreness and rales in a small spot in the left lung and cough became very troublesome, especially at night, keeping him from sleeping unless something was given to relieve it. He also began having night-sweats and some anorexia. At this stage of the case I began the use of cotton-seed oil and creosote, increasing the creosote to fifteen drops, given in the oil after meals. In a short time the cough began to improve, the sweats became very much less and the soreness had nearly all disappeared. I continued the treatment until some time in March, 1904, with great improvement of all symptoms, so much improvement that patient was able to be up and about, staying in the open air a great part of the time. The sweats ceased, cough had almost entirely ceased and soreness about all gone. Patient was so much improved by this time that he decided to move to another part of the State where his relatives resided.

He however continued the treatment for some time, making apparently a complete recovery. I received a letter from him a few days ago in which he said that he had just closed an eight months' school, teaching a seven months' school last year, and that his chest expansion is four and one-half inches and his weight is 122 pounds, more than it was before he got sick in 1903. It having increased under the treatment from 107 pounds—his weight at one time while he was sick—to 122 pounds at the present time. Several examinations have shown no tubercle bacilli. Would like to know if anyone else has used this treatment, and if so, with what success?

ACUTE ARTICULAR RHEUMATISM, RHEUMATIC FEVER.

BY E. C. BOYETTE, M.D., MT. HOLLY, N. C.

Acute articular rheumatism, or rheumatic fever, is of graver import than usually considered by the laity, and is relegated by many practitioners to a place of inferiority in the category of diseases. The frequency with which we come in contact with rheumatic fever in the children's wards in hospitals of our larger cities, and the severity of some of the complications alone is sufficient reason for special study of this painful disease and the instituting of a watchful care against its inroads.

The word "Rheumatism" is very misleading in its meaning, on account of its general use by the laity and some physicians in expressing every disease which manifests itself by fever, pain and swelling in the muscles as well as in the region of the joints.

From the Greek word "Reo" (I flow), we have one of the oldest theories of physicians regarding the appearance of morbid processes in the body. "The flow of spoiled fluids from the brain to other parts of the body, the external excretion of the same from mucuous membranes (Catarrh), was looked upon in antique medicine as the principal cause of disease."

In the course of time medicine, like other sciences, has changed, until this view has been contracted and is now used to designate more distinct groups of diseases, and hence we have rheumatic, referring principally to diseases characterized by pain, which may or may not have a distinct inflammatory phenomena. On account of these things following draughts, wetting or pronounced refrigerations, many morbid conditions have been designated rheumatic.

These expressions "Rheumatic," "Rheumatism," etc., have been used in a symptomatic, as well as in an etiological sense, is why we have so much indefiniteness among the medical

profession of to-day, and the sooner we eliminate this general, meaningless expression from our minds the sooner we will be able to classify the morbid conditions present, and assign them their proper places in the category of diseases.

In this paper I wish to refer to rheumatism only as an acute infectious disease, characterized by pain and swelling of multiple joints. It is due to a specific micro-organism, and I think that the time will soon come when the physicians will recognize no such thing as Chronic Rheumatism.

If we examine closely the different cases coming to us with a diagnosis of rheumatism it will be noted without difficulty that important differences exist which will permit of the arrangement of the morbid conditions present into quite distinct well-known pathologico-anitomical groups.

For example, a woman comes to us complaining of rheumatism in the arm and neck. She has a cyanotic appearance, possibly due to circulatory disturbance arising in the heart. Upon examination of the affected arm we find normal joints, no swelling anywhere, but upon certain active or passive movements there suddenly appear severe pains, radiating toward the hand or back of neck. If we follow the course of these pains we will find upon the ridge of the shoulder, upon the arm, or upon the clavicle that there are quite distinct arrears which show exceeding sensitiveness upon pressure. These points correspond to certain arrears in the course of certain sensory nerves, and on account of this, as further examination shows, we have a neuralgia, which is possibly favored and maintained by the circulatory disturbance, instead of rheumatism as was supposed by the patient.

As a further illustration, another patient complains of severe pains in the region of his knee and ankle joints (which he attributes to changes of the weather), the severity of which may compel him to take to bed; but they soon become less severe and he is out and walking about again, but the peculiar

gait is conspicuous. He throws his feet forward to an unnecessary degree, and in bringing down the heel he expends just as much unnecessary force.

In this we recognize an ataxic gait, and know that it is an important symptom of tabes dorsalis, an affection of the spinal cord. Though the disease seemed influenced by refrigeration, though the pains were in the region of the joints most often affected in rheumatic fever, we have an entirely separate and distinct pathological condition, demanding entirely different treatment, which without due precaution could easily have been designated acute articular rheumatism.

Besides these, gonorrheal arthritis, and syphilitic periostitis could in this connection be illustrated, but will refer to them more especially under differential diagnosis.

Etiology.—"It is, therefore, seen that acute articular rheumatism or rheumatic fever has much similarity and some connection with other diseases which are due to infection, which heretofore was looked upon as a prototype of a malady produced by refrigeration.

For several years American and English physicians have noted the frequent occurrence of rheumatic fever after an attack of tonsilitis. And more recently the German physicians have noted the association of angina tonsilitis with acute articular rheumatism.

These observations have been so frequent in recent years until we naturally look for tonsilitis as accompanying or preceding rheumatic fever. As far back as 1888 Whipman, in his collective investigations for the British Medical Association, speaks of tonsilitis as being the primary affection preceding acute articular rheumatism.

Recently Fritz Meyer and Menzie, by injecting into animals a culture of streptococci obtained from a case of tonsilitis, produced a clinical picture similar to that of rheumatism in the human. With the certainty that rheumatic fever is an infectious disease, without the knowledge of how or the

points of infection, leaves an important field for future investigation by pathologists.

But with the knowledge that it is an infectious disease, due to a specific organism, and the frequency with which tonsilitis has been observed to be associated with it, leads us to consider the tonsil as the most suitable field for entrance of the bacilli.

The peculiar sinuate structure of the tonsil, and the fact that the enveloping epithelium is partly desquamated, by being encroached upon by leukocytes, producing a sort of empty space by dilating the spaces between the epithelial cells, forms an especially fertile field for the colonizing of bacteria.

We, therefore, when the tonsil is in an inflamed and swollen condition, have the power of resistance weakened, thus preparing a port of entrance for the bacilli, which then would increase in the blood and pruduce inflammatory processes in areas or tissues most susceptible to their actions.

The true nature of the micro-organism, producing acute articular rheumatism, is yet unknown. Recently two French pathologists (Triboulet and Coyon), have isolated a bacillus which they call bacillus rheumaticum, but is of too recent date to accept as the specific micro-organism of rheumatism.

Morbid aptitude varies considerably with different races. We not only have this susceptibility in infectious diseases in different races, but certain families of the same race show predispositions and immunities no less remarkable.

Just as the Malay is more susceptible to small-pox, or the negro less susceptible to yellow fever, we have the Caucasian more likely to have acute articular rheumatism. Just why this is so, we are not able to explain. It seems to be most frequent in the temperate climates, and seldom occurs above certain altitudes. It is not recorded as occurring in the tropics or in the Arctic regions.

Although acute articular rheumatism may occur in any

period of life, it is especially a disease of adolescence, most frequent before the age of twenty-five, and seldom in children under five; but endocarditis and pericarditis are more likely to occur as complications in children than in adults.

Among the predisposing causes sudden refrigeration seems to play an important part, by driving the blood into the abdominal vessels, producing pulmonary anæmia. Therefore in countries where we have the greatest and most sudden changes of weather is where we have the most weakening of the power of resistance and likelihood of microbic infection.

This influence, however, is limited to the preparation of an already predisposed individual for microbic infection by lowering general or local vitality. Hereditary predisposition seems to exist in some families, especially those of a pale, chlorotic condition, and one attack predisposes to another.

Aside from the tonsil, any other part of the body with an abrasion exposed to the external air is suggested as a possible means of entrance of the micro-organism peculiar to rheumatic fever. But most of these etiological factors are as yet mere conjectures.

The only part that we are certain about, that it is an acute infectious disease, due to a specific micro-organism, which enters the system at some point and produces pain and localized inflammatory conditions of the joints.

Symptoms.—The onset of the disease is that of an acute infection, characterized by loss of appetite, fever, swelling, redness and pain in the larger joints. You may have a pronounced initial chill, followed by high fever and at times nausea and vomiting.

The temperature does not as a general thing rise above 103 degrees F., but in some severe forms may reach 106 or 108 degrees F. The tongue is coated and frequently dry, and if mouth breathing exists the previously white coating will become brownish and even black, due to decreased excretion

of fluid to the mouth and an acid decomposition of the desquamated epithelium.

This condition may occur to some extent in all diseases characterized by high fever, but is especially characteristic of acute articular rheumatism. The urine is diminished, high-colored and strongly acid, and by chemical reaction shows increased uric and lactic acid deposits.

Profuse and acid sweating is a characteristic symptom, and according to Osler, later on, if sweating is persistent the perspiration may become neutral or alkaline. The bowels are usually constipated. The fever continues throughout the disease, showing marked remissions.

The skin is often covered with an eruption, supposed by some to be due to irritation of the orifices of the sweat-glands, from excessive acid perspiration. The local phenomena is pain, tenderness, increased heat, swelling and redness of the affected joints. The pain is of such a nature as to cause the patient to lie motionless in bed.

Children, sometimes, dreading to be approached by anyone, fearing that they will be moved. Anæma develops rapidly, and a marked leucocytosis is present. The constant and severe articular pains, loss of sleep due to this cause, forced immobility and continued fever are factors which soon reduce fat and muscle.

There is, in some cases, an exhaustive condition occurring in the central nervous system, manifesting itself by hyperpyrexia, and other conditions similar to those arising in septic infections or any long-continued high temperature.

This condition may suddenly occur when the patient is close to convalescence, and can only be combated by the most energetic external cooling of the body. These conditions are of rare occurrence, only appearing from accidental presence of various unfavorable circumstances.

It has not been many years since the physicians met with the clinical pictures mentioned above, the patient lying in

bed for weeks and months, developing bed-sores, unless careful nursing was to be had, and in those of obess nature, an eruption which would develop into eczema, causing intense itching, and adding new torture to the already inflamed and painful joints.

But with the recent advance in medical science this form of acute articular rheumatism is comparatively a thing of the past. But with all the gratifying changes which the treatment has brought about it is still to be regarded as a serious disease, which frequently throws its shadow over the entire remainder of the life of the individual.

For, with all the active remedies now at our command, we are not able to present all the serious complications which are so prone to manifest themselves. Among the frequent complications endocarditis has first place, and should be suspected and carefully looked for in every case of acute articular rheumatism. Sometimes, especially in children, endocarditis develops insiduously without noticeable symptoms to the heart, and shows a special tendency to dilitation.

The natural sequence from diseased valves of the heart is dilitation of the left ventricle, regurgitation into the lesser circulation and right heart. Upon these diseased valves we have a new danger developing, that of thrombi, which may become loosened and carried into the circulation, clogging smaller and even larger arterial twigs, entering the spleen, kidneys and brain.

If the terminal arteries should become blocked we have as a natural sequence necrosis of the tissue with inflammatory demarkation (Embolic infarct), which if in the brain, heart or wall of the aorta are especially serious complications.

Chorea, like tonsilitis, is supposed by some to be closely associated with acute articular rheumatism. But speaking of rheumatism in a restricted sense, classifying it as an acute infectious disease, affecting joints and not all parts of the anatomy as formerly believed, possibly places it in another category of diseases.

Rotch says the percentage of cases, however, in which chorea is associated with acute articular rheumatism is difficult to determine.

The difficulty arises from the want of uniformity in the reported cases of different observers, due to their different ideas as to what constitutes rheumatism. If only the cases of acute articular rheumatism are to be classed under rheumatism very few cases of associated chorea need be spoken of; while if all the pains and aches are to be considered rheumatism the number of chorea cases by rheumatism rises to 50 per cent more.

The truth in the future will probably be found to lie in some intermediate number, for in certain cases a close connection seems to exist between chorea and rheumatism.

The possible association of chorea to acute articular rheumatism is due to embollic processes in certain parts of the brain, or by the toxic action of the bacilli peculiar to rheumatism.

Diagnosis.—As has been previously mentioned there are many morbid conditions which occur acutely, and which from the closeness of the inflammatory processes to the articulations, have much resemblance to acute articular rheumatism, but which, by a close study of the anatomical changes, the nerve centres, and previous history can be differentiated from rheumatic fever without difficulty.

Multiple acute articular joint inflammation, preceded by marked refrigeration, associated with tonsilitis or history of previous attack, profuse sweats and early tendency to heart complications should be looked upon as suspicious of acute articular rheumatism.

Previous attacks predisposes to re-infection. Rapid retardation of acute symptoms after use of the salicylates combined with the above clinical picture, confirms the diagnosis of rheumatic fever. But we must not be blinded to other diseases, for, after a number of attacks of acute articular

rheumatism, we may later on acquire another variety of acute articular inflammation, which from the acuteness of the attack may present the greatest similarity to infectious rheumatic fever.

Gonorrheal arthritis in which several joints are affected, accompanied by fever, belongs particularly to this category.

The tendency to connective tissue adhesion about the joints and the fastening of itself upon individual joints, the gleety discharge and the non-reduction of the acute symptoms by the salycilates makes the diagnosis conclusive.

The beginning of osteomyelitis may resemble very closely acute articular rheumatism, especially if both legs be affected at the same time. The differentiation will depend upon the determination of whether the joints are actually the seat of inflammation, or whether it is not more an inflammatory condition of the covering of the bone, and later fluctuation from the presence of puss.

In syphilitic periostitis, which in some instances resemble acute articular inflammation, we must depend upon the characteristic signs of syphilis manifesting themselves in other parts of the body, the presence of characteristic enlargement of the bone in the region of the joints, and the rapidity with which the symptoms disappear, by the administration of mercury.

Treatment.—Physicians differ very much as to the ultimate effect medicine has upon the course of the disease. Garrod claims that "colored water" is as potent as anything else, as it is a self-limited disease, sometimes running a long, sometimes a short course. This view is adhered to to-day by a large number of physicians, while others are just as positive that the disease is influenced and cut short by the use of certain medicines.

Rotch claims that there are no drugs which act directly upon the disease, either to shorten its course or to prevent its complications. Recent observations of the effect of the saly-

cilates, however, are that they have a specific influence upon the course and the severity of the disease.

Any failure to get this effect must be due to the smallness of the dose administered or from an inert preparation used. The dose, which should be administered to an adult in 24 hours, should at least be from 100 to 120 grains.

If pain is not relieved and the temperature not reduced, even larger does than this may be administered, unless symptoms of intoxication (such as tingling in the ears or nausea) appear. It is preferable to give it in doses of 10 to 15 grains every two hours until effect, then in smaller doses at longer intervals.

The salycilate of sodium is preferable, being more pleasant to administer and less depressing to the system. It is best administered in a liquid form, and in combination with some alkaline solution, as this seems to enhance its efficiency.

The local application of the salycilates in solution to the inflamed joints, in some cases, is followed by decided benefit. The manner in which the salycilates and its derivitives influence the micro-organism is not known, but its good effects have been reported so often until we are bound to accept its specific influence upon the micro-organism peculiar to rheumatic fever.

The salycilates should not be withdrawn until the fever, pain and swelling have disappeared. The heart must be closely watched and at the first indications of endo or pericarditis ice coils should be placed over the cardiac region. The early and persistent use of the salycilates, combined with rest in bed, are the surest and safest means of preventing the serious cardiac complications which are so prone to appear.

The bowels should be kept open by some saline, preferably magnesium sulphate. The thirst is best allayed by some alkaline mineral waters. The diet should consist of soups, broth and milk, of which milk is decidedly preferable.

The room should be well ventilated and at an even temperature. Daily hot baths should be administered, the temperature ranging from 90 to 100 degrees F.

The period of convalescence requires more care than after almost any other disease. Above all, it is necessary that the heart, which has been more or less affected, should be allowed to recuperate, especially if valvular lesions have resulted, and this is best accomplished by perfect quiet.

The pulse must be closely watched, and bodily exertions avoided for weeks. After convalescence is thoroughly established, a process of hardening should be instituted, and this is best accomplished by carefully chosen hydro-therapeutic measures, which, if properly administered, influences the eliminating power of the skin and the entire process of metabolism.

This hardening process, the administration of some preparation of iron, good nutritious diet, and avoidance of bodily exertions, make up the treatment of convalescence and gives us the best final results.

THE RELATIONS EXISTING BETWEEN THE UPPER AIR PASSAGES AND THE LUNGS.

BY R. V. BRAWLEY, M D . SALISBURY, N. C.

The question of nasal obstruction, adenoids, and enlarged tonsils has been brought very frequently before the profession for the past two years; but, far too little attention has been paid to their relations with the deeper air-passages. The relation between chronic catarrh and the upper and the deeper air-passages has not received the attention it deserves; it is barely mentioned in the most general terms in connection with bronchitis, and the possibility of emphysema, bronchiectasis or fetid bronchitis being due to such causes is usually ignored.

When we consider that the upper air-passages, comprising the nose, pharynx, and larynx, present a canal lined in its entire extent, except where the respiratory and the alimentary tracts cross each other in the parynx, by mucous membrane covered with ciliated epithelium, and that they imperceptibly merge one into the other without the interposition of a sharp line of demarcation, we can readily understand how pathologic changes in any portion of the upper air-passages are not sharply limited in their local effects and ultimate consequences to a circumscribed area; but, on the contrary, they display a peculiar descending character.

To better understand, let us review the physiologic significance of the air-passages in the act of respiration. They are not merely canals for the transmission of inspired air; for as each segment has a special function of its own and contributes to the preparation of the air for reception in the lungs, this function cannot remain in abeyance without detriment to the organism.

The air, upon entering the nose, first meets with resistance by striking the vibrissæ lining the inner margin of the nostril,

and which act as a coarse filter to arrest the larger particles of deleterious matter that might gain admittance. The nasal cavity being narrow and irregular, there is a deflection of the air-current, which necessitates a certain amount of friction between the air and the walls of the cavity. In consequence of this friction and these narrow and complicated passages, the dust particles suspended in the air-current are brought in close contact with the mucous membrane and stick fast to its moist surface, later to be swept out by the outward current of the ciliated epithelium. The abundant supply of blood vessels in the nose, and the property possessed by them of changing their volume, enable them to adapt themselves easily to the outside atmospheric changes and to warm the inspired air to temperature of the body. To enable it to supply the required amount of moisture, the nose is endowed with an abundant supply of serous and mucous glands, and an extensive system of lymphatics which relieve the bronchi and lungs of an onerous duty. This duty falls on them to a much greater degree if respiration is performed through the mouth. Its secretions retard the growth of most bacteria and prevent the development of others. In addition to these functions, the sense of smell serves to protect the organism by testing the inspired air and guarding the lungs against substances which can be recognized by their odor. And, by bringing the sneezing reflex into action, it rids itself of coarse particles of matter which might otherwise gain admittance.

Now, when the air reaches the pharnyx and larynx, after having passed through the nose, it has undergone the necessary preparatory changes for its entrance in the lungs and needs no further alteration. However, should any particles of dust enter the larnyx with the inspired air, they are promptly swept out by the ciliated columnar epithelium.

But, what takes place if the respiratory air-current can not make its way through the nose? Is the oral cavity capable of supplying the functions of the nose in preparing the air for

respiration? The width of the oral cavity is such that the air-current encounters no resistance, and consequently its progress is not retarded, as it is in the narrow nasal passages, and no time is afforded for purification and saturation. The less abundant blood supply, and the absence of cavernous tissue; the absence of an abundant watery secretion in the oral cavity; the nature of the epithelium in the mouth, which is of the squamous variety, and, therefore, incapable, in contradistinction to the ciliated epithelium of the nose, of removing automatically any deleterious substances in the air-current—all these structural differences combine to make the mouth unfit to supply the air-current to the lungs.

The evil effects of this mouth breathing first manifest themselves in the mucous lining of the pharnyx and larynx, which become dry because the air has not been properly prepared and saturated. Dust particles are first deposited on the mucous membrane of the mouth and oral pharynx—which is covered only with squamous epithelium—and later make their way into the larynx and deeper air-passages. The constant irritation of the dry and unpurified air coming in direct contact with the mucous membranes of the pharynx and larynx, gives rise, as we can readily understand, to chronic catarrhal conditions. So the bronchi and lungs may be materially affected by a disturbance of the physiological action of the nose.

The most frequent cause of nasal obstruction, especially in children, is hypertrophy of the lymphatic elements in the post-nasal space. And, in these cases of adenoids—in the bad cases, for example, those occurring in scrofulous children—there is a constant outpouring of a secretion consisting of imperfectly developed epithelial cells, white cells, mucin, and germs beyond number. These are poured off in quantities from the surface of the diseased lymphatics, all of which may infect the larynx and trachae. This, coupled with the evil effects of mouth breathings, render these children prone to become the subjects of not only catarrh of the nasal

cavity, but also, of recurring pharyngeal and laryngeal catarrh, and of acute bronchial catarrh; while, if the condition continues, they usually develop chronic bronchitis, which can be permanently cured only by restoring nasal respiration.

Mouth-breathing is, however, not the only precursor of chronic catarrh in the deep air-passages; the condition frequently develops as a sequel to pathological alterations in the nose itself, provided they are sufficient to render it unfit to afford the necessary protection to the lungs.

In suppuration of the nose or its tributary cavities we have a constant trickling down of pus from the naso-pharynx into the deeper air-passages, producing a set of symptoms, including depressed nutrition and occasional elevations of temperature which is often mistaken for phthisis. And in these cases it is not always a question of irritation and cough alone, but a genuine and specific infection from above, as is shown by the fact that a profuse purulent discharge can be seen bathing the larynx and clinging to the walls of the trachea, similar in every way to that found on the back of the palate and oozing from the posterior nares.

Diseases of the lungs may owe their origin to direct extension of diseases of the upper air-passages to the trachea and bronchi. In genuine ozena, or atrophic rhinitis, an atrophic process in the mucous membrane, shared to some extent by the skeleton of the nose, so that the turbinated bones are often destroyed, and the nasal cavity attains enormous dimensions. The atrophy affects the glands and the erectile tissue, partly destroying both structures, but does not extend to the blood vessels, which, on the contrary, according to recent investigators, become dilated. At the same time the ciliated cylindric epithelium is converted into horny squamous epithelium, giving the mucous membrane a dry, cicatricial appearance, which in the later stages also extends to the pharynx and larynx after the atrophic process has reached these parts. The disease is regularly accompanied by the secretion of a tenacious

material, which dries, forms crusts, and gives off a characteristic penetrating odor. The discharges make their way into the pharynx and larynx, and thence into the deeper air-passages, where they may set up chronic irritative conditions. And, in these atrophic conditions of the nose, coupled, as they are, with metaplasia of the epithelium, foreign bodies contained in the inspired air cling to the walls of the cavities, and eventually penetrate into the deeper air-passages. In examining persons afflicted in this way, whose work obliges them to breathe impure air, a mere inspection of the nose, pharynx and larynx shows the dust particles, whether mineral or vegetable, as, for instance, coal dust and flour, clinging to the mucous surfaces, and it is easy to understand that these dust particles may be carried down with the inspiratory blast and settle in the bronchi. Such morbid changes must necessarily favor the development of the various forms of pneumoconiosis, especially anthricosis and chalicosis.

In a paper by Sticker, he has shown that, aside from the fact that diseases of the lungs may be caused by diseases of the upper air-passages, there is a general condition of which the atrophy of the mucous membrane is merely the superficial expression, and this he has called "Xerosis of the mucous membranes." This condition eventually leads to a widespread and more or less complete atrophy of all the mucous membranes of the body, and, as old age comes on, to a progressive increase in the size of the nasal and post-nasal cavities, the larynx, the trachea, the bronchi, and, finally, the lungs. The tendency of the finer bronchioles to a dry catarrh, leading to simple increased volume and pulmonary emphysema, is interpreted by Sticker as an expression of the general xerosis which primarily affects both the upper and lower air-passages.

Theison found out of forty cases of ozena, fourteen cases of pulmonary tuberculosis, truly a remarkable percentage and certainly suggestive of something more than coincidence. And

he comes to the conclusion that "the large number of ozena patients having pulmonary tuberculosis would certainly point to the nasal condition as a strong predisposing cause for the development of the tuberculous condition."

Disturbances of the sensibility and of the reflex activity of the pharynx and larynx have an important bearing on the lungs and bronchi, as they facilitate the development of inspiration pneumonia. If there is anesthesia of the pharynx and larynx, and the cough reflex is diminished, it is easy for particles of food to enter the larynx; and, when from anesthesia of the larynx the glottis fails to close, and there is no reflex cough, the offending body readily finds its way into the lower air-passages. Hence an inspiration pneumonia frequently complicates nervous affections, which, like diphtheria, are accompanied with disturbances of sensibilities, or, like bulbar diseases, with loss of reflexes.

More attention should be paid to diseases of the upper air-passages in their relation to diseases of the deeper air-passages; in fact, it should be a part of the routine examination on the part of the physician, to ask the patient if he can breathe with his mouth shut, if one or both sides of his nostrils are not occasionally blocked, if he can smell or taste, and if there is any discharge from the nares. If this were done thoroughly, a good many mistakes in diagnosis would be prevented, and many patients saved from much unnecessary suffering.

CLINICAL REPORT ON PSEUDO-LEUKEMIA.

BY W. B. CRAWFORD, M.D , GOLDSBORO, R. F. D., N. C.

Pseudo-leukemia, or Hodgkin's disease, has for its peculiar and characteristic features, two prominent symptoms, besides those resulting from the disease itself, or those produced upon the various organs by interference of their functions, namely, enlargement of the lymphatic glands and progressive anæmia. In the case that came under my observation the gladular enlargement was preceded several months by anæmia, rendering an early diagnosis impossible, and puzzling me considerably to account for the increasing signs of cachexia, and only by a careful study of the case were my suspicions aroused as to the true nature of the trouble, and I was enabled to detect the first evidence of excessive growth of superficial glands, this being the enlarged condition of the tonsils and follicles at the base of the tongue, a short time prior to the prominence of the cervical glands in the posterior triangle.

So far as the influences which produce the disease are concerned, very little is known, and I do not propose to tax your endurance by endeavoring to turn on the calcium light in regard to its etiology, or treatment, or expatiate upon the management of the trouble, having seen only two cases in twenty years of practice and this, the only one which ever came under my personal observation.

'Tis said, "A disease known is half cured." But the author of that aphorism evidently did not have this disease in mind, or he would have said "a disease known is half dead." It has been found that there is a diminution of red corpuscles in the blood in these cases, and in the majority of the cases, no excess of the white. There is no evidence suggestive which would justify the theory of transmission by heredity. Age has no influence whatever over the condition. Like death, it not only has all seasons for its own but all ages also, though

it is more frequent in early and late adult life, and fortunately is of rare occurrence, this being the only case of the kind I ever treated in a practice of twenty years. The advanced age of the patient, the busy, active life he led, no hereditary taint, a living example of the simple life in all its sublime simplicity, and from long-lived ancestors, made it very interesting to me, and though the age of the patient would have influenced the prognosis in the trouble of less serious nature, and realizing that there was no hope for recovery, and very little for even temporary improvement, my efforts were somewhat encouraged by the periodical amelioration of symptoms.

In January, 1905, I was called to see Mr. Richard H—, age 78, a quiet and industrious farmer, who worked his little farm just as he had done for half a century, and his father had done also before him. Surrounded by children and grandchildren, happy and contented, with plenty and to spare. As his family physician for the last eleven years I regarded him as the best preserved man and the most active for his age I had ever known.

I found the following condition. Marked debility, impaired digestion, but no irritability of the stomach, slight cardiac palpitation, little swelling of the extremities, and a decidedly yellow complexion, tongue furred, and bowels irregular. These symptoms having been preceded by a few slight chills led me to naturally infer that I had a case of anæmia, consequent upon malarial influence, and probably exaggerated by the patient's advancing age. But the latter thought was dispelled when I learned that his father died at the advanced age of 97, and his mother within a few months of 103, both active and healthy until death, which came suddenly, and the entire family connection of correspondingly long life, others having passed the century mile-post.

I put him upon iron, quinine and arsenic, and in a few weeks he was apparently restored, and to all external appearances had regained his former strength, and returned to the

busy duties of his little farm, after having taken treatment for about one month.

I did not see him again only in passing from early spring until the latter part of the summer, when he again stopped me, saying he had a bad throat and could hardly swallow. The former symptoms were not so marked, but he was very much emaciated, though not so apparent in the face, his skin was a dull yellowish hue and hung loosely over the body, the mucous membrane of the mouth and gums were injected, the follicles on the posterior part of the tongue were unduly prominent, and the tonsils enlarged sufficiently to cause more or less difficulty in deglutition. I again put him on tonics with local spray for the throat, with the result that he was soon better. His recuperating powers being so acute that the emaciation gave way to a decided gain in flesh, and the trouble seemed to have entirely disappeared.

In the latter week of October he stopped me again and said he was "puny," and for several weeks had had "risins" all over the back of his neck. The cervical glands in the posterior triangle were enlarged, irregular in size, firm and smooth, and slightly tender. Those of the axilla were somewhat enlarged, but not sufficiently to be detected by the patient. There was slight febrile disturbance, paroxysmal in character, with intermission, or entire cessation for several days, which caused him to think he was again having chills. This condition, coupled with the long-continued anæmia and a careful study of the case, brought out the diagnosis and gave little hope for treatment.

However, by increasing the arsenic, and by the addition of potas-iodid, there was slight improvement, and the treatment was continued, at intervals, with no apparent increase in the symptoms and with little disturbance to the duties of the patient for nearly four months.

In March, 1906, the cervical glands were no larger than when I first saw them, but those in the anilla, or I might say

gland, was of enormous size, the smaller enlargements having united and formed one large, solid, firm mass. Those of the inguinal region were in a similar condition, and causing pain and discomfort.

The following two months there was a gradual increase in the severity of the symptoms, with corresponding decrease in the patient's physical powers, though he was not confined to his bed all the time.

The emaciation progressed, there was complete anorexia, distressing dyspnœa, and obstinate constipation, the skin assumed a greenish hue, severe pains only when under the influence of opiates over the entire thoracic and abdominal cavity, those of the latter similar to the pains of intestinal colic, temperature variable, never presenting an elevation of more than one or two degrees, death resulting from exhaustion after the patient had been confined to bed for two weeks, within a few months of his 80th anniversary.

The interesting features of this case consisted in the advanced age of the patient, his unusual vigor and remarkable activity, and strong constitution; the long-continued and progressive anæmia, prior to any evidence of glandular enlargement, this being rarely noted. The anæmia generally accompanies the glandular enlargement or is a consequence of the diseased glands.

The affection is defined as characterized by enlargement of the lymphatic glands and by progressive anæmia. This being so, the question naturally arises as to whether in this case the diseased glands was not the result of the prolonged anæmia, and not the primary cause. I am inclined to this opinion from the length of the time which elapsed during the anæmic condition, before any evidence of the lymphatics being involved, and the affection being regarded primarily constitutional, with local growths the result of that condition, confirming the belief that in the trouble, we have one closely allied to tuberculosis.

WHEN THE BABY COMES.

BY CYRUS THOMPSON, M.D., JACKSONVILLE, N. C.

There is no other time in a woman's life like the hour when the baby comes. You saw her "like a red, red rose that's newly sprung in June" when, just bloomed into ripe womanhood, she bent down one day and kissed her neighbor's newborn baby, and said extravagant things to it, things which you and I could never have thought of. Moved by her two strongest instincts of maternity and protection, the protecting arm of the man who for love should choose her from among a thousand, she was dreaming of the time when, in her husband's house, she should kiss and clasp to her breast a bairn born of her own body. Not consciously, it may be; but so dreaming, none the less. And now the hour is come, and it is a time of trouble. It is her supreme hour. In other hours of trouble, she may comfort herself with friends, or find solace in fair recollections of long ago; she may hope that time, moving slowly, will smooth the bitter angles of a deep regret, or dull the keen edge of a lasting sorrow; some balm of drug, or touch of hand, or kiss of love, may ease her pain, or quiet her fear, or give her rest. But this is the hour of fruitage; the rose-petals are all blown with the winds; it is the hour of fact and not of dreaming fancy. It is the inevitable crisis which must be met in the path of her love in fulfillment of her highest destiny; and the woman must be in travail alone. God pity every woman that comes to bed with child, and give her that sweetest of all a woman's joys, to know that a man, or a woman, is safely born into her house! Have you never heard one say, "Oh, Doctor! I am so thankful it is all over, and that the baby is all right"? I have sometimes thought that no man ever felt a joy comparable to that.

Do you say that you will relieve her pain with chloroform, or ether, or morphine and scopolamine? Take away all her

pain—I have seen an eclamptic unconscious of it—make labor as painless as the kiss of love, the hour when the baby comes is by no means thereby delivered of its pregnancy. The accidents that may befall her then and the consequences that may follow long afterward, anæsthetics do not relieve these. A painless labor will not prevent a laceration, or a hemorrhage, or an infection. It may or may not leave the woman in apparently better condition upon the termination of the process. Go ask the general practitioner how many of the ailments of mothers date from the birth of the baby; ask the gynecologist how far a better practice of obstetrics would diminish his clientele; and ask the husband what time the roses began to fade from her cheeks and the daily weariness to come on, and the zest of love and of life began to wane. Their answer will but emphasize the mother's need of the profession's best care when the baby comes.

True it is that the healthiest, helpfulest, happiest women I ever knew were mothers—mothers of many children, women that were well cared for in their confinements. One such only a few days ago I met at a house whither she was come to inquire after a neighbor's sick baby. A plain farmer's wife she is; she does her housework and kitchen work without servants. "I have seven children," she said. On my drives that way I see her children, robust and happy. The color and spirit of June days has not left her face and mien; her eyes are not dimmed nor her natural force abated. This woman knows nothing of headaches and backaches and dragging sensations, and pains about her heart and lumps in her throat, and miseries in her side and in her pelvis. Her husband is full of industry, and his face is without worry. In the nature of things, to be sure, this woman will pass,

> "Through years of toil and soil and care,
> From glossy tress to thin gray hair,"

but none the less true it is, that

> "The morning dew that dries so soon
> With others, glistens at her noon."

But this type of mother is not the rule, unfortunately; it is the exception which proves what the rule ought to be. With better attendance for women when the baby comes and for a little while afterward, this small company of normal mothers could be largely increased. In what other way could the sum total of human happiness be so greatly augmented? A strong and happy woman in the house is the surest foundation for a prosperous and happy household.

It is well that this Society twenty-odd years ago took a stand for the protection of the public, and secured the passage of the act regulating the practice of medicine in North Carolina. A member of the Legislature at the time, I well remember how this innovation upon old custom, this "infringement of human rights," was opposed. Lawyers opposed it, although they might generously have considered it an effort of medical men to get legally on an equal footing with them. Even medical men in the Assembly opposed the measure, we need not stop to inquire why. Its best friends, perhaps, were thoughtful farmers and business men. The bill became law, however—weak as a child to begin with; but through lapse of years, now grown well-nigh to manhood, it is firmly fixed in popular favor. This act protects the public against gross ignorance in the practice of medicine—except in the one important field of obstetrics. Anybody may practise midwifery in the proud commonwealth of North Carolina who has knowledge that, when the baby comes, it is followed by an afterbirth, which must not be left permanently attached to the child.

If there be a remedy for this public and professional disregard of the welfare of women, it is cruel not to find and apply it. The mothers directly and their families indirectly are entitled to the benefit of it. We have laws for the protection of the public against acute contagious diseases, diseases dangerous to the public health we say; not one of which, nay, not all of which are so destructive of health and happiness as the ignorant, careless and uncleanly practice of midwifery.

I have sometimes wished that pregnancy might be included in the list of contagious diseases, and that parturient women and their attendants were quarantined and disinfected before the labor begins. One acquaintance I have who does, indeed, so regard it. He rang my bell early one morning, and my wife, being near the door, answered. Lying in bed, I heard the young man say that "Mr. Blank's wife is mighty bad off, and he wants the Doctor to go and see her just as quick as he can." My wife, who is always afraid that I will bring home smallpox, diphtheria, or the like, to our children, asked what was the matter, and added, "She hasn't any catching disease, has she?" I heard the fellow stammer, "Ye— yes'm. She's in the family way!" I got out of bed at once, and went to the door to relieve the faltering speech, from which I had gained knowledge. Labor is the limit of a germ disorder that affects, or is liable to affect, about one-half of the population, and previous attacks confer no immunity upon the subject of the malady. I went with due haste, and took with me the usual disinfectants.

It is said that the saddest commentary on the boasting of modern medicine is the continued presence of puerperal infection. In other fields of surgery the danger of infection is practically nothing; nobody expects infection in a laparotomy. And while obstetricians were the earliest advocates of asepsis, it is declared by as high authority as the President of the Obstetrical Society of London, that the mortality from puerperal fever has rather increased than decreased in the last twenty years. DeLee, of Chicago, holding similar opinion, says that it is a very conservative statement to say that 6,000 women in the United States die every year from puerperal fever, to say nothing of the vastly greater multitude who suffer infection and recover. And what is true in this particular of the United States and Great Britain, is none the less true on the continent also. Bumm says that 4,000 to 5,000 women die annually from puerperal fever in Prussia.

The record was no worse in pre-antiseptic days. But we are told that in large cities the showing is better than in the country districts; and that in maternity hospitals mortality and even morbidity from puerperal infection have been reduced to almost nothing. So, then, we are confronted and staggered by the ugly fact that in private practice puerperal infection is at least as frequent now as it was in the days when we knew nothing of asepsis.

This difference admits of but one explanation: If the maternity hospitals have put obstetrics abreast of surgery in other fields, it is only because they consider every case of labor a case of surgery; and in every confinement, therefore, they attempt the same aseptic precaution that surgeons exercise elsewhere; and if private practitioners of obstetrics, whether physicians or midwives, are followed more frequently than the maternities by puerperal infection, it is mainly because they do not view labor in this reasonable light; and do not, therefore, whether from carelessness or ignorance, take the same aseptic caution in the conduct of it.

It is admitted that when the baby comes in private homes, the conditions surrounding its coming are, on the average, not so favorable for clean work as the circumstances of a modern hospital. But the conditions in private houses are certainly no worse, and are probably better, than they were twenty years ago. And may it not be said, moreover, that the physician is measurably the maker of the environment? Even in the houses of the poor, would not the environment in any case be bettered upon the word of the professional attendant? Nothing but a clear denial of the value of asepsis can charge the bad showing of private practice to faulty surroundings.

If the physician would get it fixed in his mind that all obstetrics is surgery, requiring scrupulous surgical care, he would teach the public lessons in cleanliness which even the poorest would heed. For the physician, if he will be, is an authorative teacher, authoritative certainly among the poor.

As it is within his power, therefore, it is the physician's province to educate the public to cleaner and better conditions about the paturient and peuperal woman.

But the general practitioner, it must be confessed, is sometimes a careless obstetrician. It may be that circumstances tend to make him so. Reaching a case belated after a hard drive, he may find the waters broken, the head upon the perineum, or, it may be, already born—conditions so urgent among anxious friends as seeming to excuse his lack of preparation. The woman, in dire distress, may have fallen into the hands of a midwife, or of some superannuated female friend, whose fear, sympathy, and ignorance stand in perfect equation. In such circumstances, what time has the physician for thorough cleansing, and what will such cleansing now avail? If he would infect the woman, she is infected already; so he may persuade himself, as he throws off his coat, rinses his hands with a little soap and water, and dries them on a towel which has been doing multiple service. In God's providence, this woman does well. He may recall others of like good fortune. Gradually asepsis becomes tiresome and seems unnecessary to our professional men. One day it occurs to him that Adam and Cain must have been their own obstetricians. What did Adam know of sterile water, or bichloride solutions, or rubber gloves? He didn't even have soap. Adam knew nothing of these things, and no more knew Cain, his son, in the land of Nod. So he settles down dreamily into the foul ooze of the midwife.

But the physician should always remember that in midwifery he is a surgeon. If a perineum tears, he can afterward repair it. It were better so than prevented with infectious hands. And the hands of the midwife may be nearer sterile than his own; he may bring with him contamination from some focus which she has not known.

The infection of a puerperal woman—childbed fever they call it, and remember who died of it—is a matter of the gravest solicitude to the mother herself, to her husband whose

life centers in his wife, and to her friends who are helpless about her. The children who play in the yard, they alone keep happy with the thought that "a pretty little baby" is come; their only worry is their wonder where it came from. And what if the infection through your fault proves fatal? The woman makes no accusation; she has found "rest from all bitter thoughts and things." The husband does not blame you; while he is struggling to reconcile himself to "God's will," his ignorance covers your crime. But when you look into the sad faces of motherless children, what will you say to them? And when their father sits by his fireside alone, musing

> "How strange it seems, with so much gone
> Of life and love, to still live on!"

what cheer has your conscience for him?

Like every other surgeon, the obstetrician must take time to make reasonable preparation for his work. It is a prime maxim in all practice to do no harm. To make haste slowly is better for his patient and it is best for him. For while sepsis is not always fatal, it is always distressing; and it may entail conditions and suffering which the woman will bear about in her body through the long-drawn days of a wretched life.

When labor begins, the contents of the uterus are aseptic. Rarely, if ever, at this time are septic organisms found in the vagina; and the vaginal secretions are protective against such organisms if present. But the external genitalia are always septic, and the unsterilized hand of the accoucheur is always septic. Ninety-nine per cent of all cases of puerperal infection results from vaginal examinations and manipulations. As a source of infection, unclean apartments, bed-clothes and garments are not comparable with unclean hands and unclean genitals. If the woman is infected, therefore, the fault lies with the accoucheur who fails to put unclean fabrics out of his way, and to disinfect himself and his patient.

But when the physician has ample time at his disposal, does he always have due regard for obstetrics asepsis? No man should examine a parturient or puerperal woman until he has thoroughly disinfected his hands and his arms above the elbows. We are told to trim and clean the nails, and to scrub with brush and soap and warm water for five minutes, changing the water two or three times, and then to scrub for the same length of time with a 1:1000 bichloride solution, or a solution of lysol 1:150, or the like. So little as this is not always done. If done, it may be insufficient. Such cleansing might do for hands not specially contaminated and so cleaned every day. But the delivery of babies is not an every day business with the general practitioner, and, besides, the general practitioner attends all sorts of cases. He may be dressing an erysipelas or a suppurating wound to-day and attending a labor to-night. No scrubbing for five minutes will sterilize his hands, and no brief contact of a solution harmless to the skin will destroy all the pathogenic bacteria that flourish thereon. Let it be realized that no antiseptic in reasonable strength has power in reasonable time to take the place of prolonged use of brush and soap and frequent changes of warm sterile water. This process alone, indeed, continued industriously for thirty minutes will render the hands practically aseptic. It is immensely better than the perfunctory use of a germicide; if it kills no bacteria, it does as well by removing them. And when this is followed by the prescribed antiseptic solution, left to dry upon the hands, it may be deemed a reasonable disinfection. If, in addition to this, the obstetrician will use rubber gloves sterilized by boiling—and especially so if he has been about some septic case—he may then trust that, for himself, he has clean hands and a good conscience, a conscience which in any outcome will not cower his eye or startle his heart.

But having removed from himself the probability of becoming a source of danger to the woman, he must, before making any examination, take like care to render the woman

harmless to herself. To be aseptic with himself and septic with the mother, is criminal absurdity. He should clip at least the vulvar covering, infectious in the beginning and a constance menace by the retention of coagula and discharges afterward. Does she object to exposure? Upon explanation, she consents readily to whatever exposure you deem necessary for her safety. No further exposure in any case should be made than is necessary for the right performance of your duty; not to make this much in every case is wanton disregard of your patient's welfare. Carefully separating every fold, you should wash the vulva and all the region around about for fifteen minutes with soap and water and pledgets of clean cotton, and afterwards bathe the parts with a1:2000 bichloride solution, and irrigate the vulvar region from above with the solution from a sterile bag. Making the external genitalia aseptic, you remove from the woman the second of the two sources of her danger. For while there is a possibility of auto-infection by means of bacteria lodged in the vagina by coitus or by self-examination, this source of infection is so rare as to be practically inconsiderable.

If the case has been in the hands of a midwife or other unclean attendant, infection from this source must be assumed as a fact already; and in addition to the external disinfection, the vagina should be copiously douched with the bichloride solution (1:2000), followed by sterile water.

During the progress of the labor, the parts should be kept covered with an aseptic napkin, and cleaned by antiseptic sponging before examination. Examinations should be as infrequent as certainty of conditions will admit; and the fingers should never be passed into the vagina again until they have first been re-sterilized. Let it bear hard upon your conscience that the source of infection lies outside the vagina, and that rigid asepsis prevents infection. The maternities have made their brilliant and beneficent record and put to shame the private practice of midwifery only by right appreciation of these simple facts.

When the baby is come—when the labor is over and the mother would rest from her travail—your duties are not yet done. Besides guarding her against the accident of hemorrhage, the physician himself should wash the external parts with the same scrupulous regard for asepsis that has characterized him in the progress of the case. This is a part of your work. Unless, as seldom happens, you have at hand a competent nurse who has been made as clean as yourself, you must not relegate it to another. With your own hand and eye, you must carefully examine for pelvic-floor lacerations. You may have endeavored judiciously to prevent this accident of labor, and you may have failed in your endeavor. It is an accident which, to considerable extent, notwithstanding the use of every known method of supporting the perineum, occurs in more than 20 per cent of all first labors, and in nearly five per cent of all others. You may have attempted to prepare the vaginal outlet by careful and continued backward and outward massage-pressure; but the rigidity may have resisted your efforts. You may have tried to delay the expulsion of the head and to deliver it between pains. Fierce and prolonged contractions, or relative disproportion between presenting part and parturient outlet, may have rendered all your efforts vain. Or, if the head is safely through, the damage may be done in the birth of the shoulders. It sometimes happens that the expulsive effort is so intense and continuous that you are unable, in the delivery of the shoulders, to give the perineum the advantage of the cervico-acromial over the bis-acromial diameter. Laceration may occur in consequence of your inability to deliver the posterior shoulder first. And unavoidable lacerations may have occurred in other ways. But it is the physician's business to know if they have occurred; and, if they exist, he must repair them as soon as the mother takes a little rest and the oozing from the torn surfaces is visibly checked.

If lacerations of the cervix have taken place, of these you

will attempt to find out nothing, except in cases of profuse hemorrhage, which may come from a cervical laceration extensive enough to involve the circular artery. Only such accident would necessitate or justify immediate inspection and repair of the cervix. For besides the added danger of infection, lacerations of the cervix have a fine tendency to take care of themselves.

Your work so far complete, you should cover the vulva with gauze wrung out of a 1:10,000 bichloride solution, and over this should be aptly placed absorbent cotton or a clean napkin. Let this dressing be changed, a strong boric acid solution being substituted for the bichloride, and re-applied as often as it becomes saturated; and for several days the parts at each change should be cleansed with an antiseptic wash; or, rather, irrigated from above with sterile water. Disinfectants should be left for the use of the attendant, and she should be well instructed as to the method and the necessity of cleansing her hands before touching the puerperal woman.

If the mother will use a bed-pan for ten days, the vulva will be less an open wound than if she assumes the sitting posture—a point worthy of insistence if any sort of vulvar covering against infection is worth the using.

In ordinary labors, the physician should remain at the house two hours after the birth of the baby; and before leaving, when the condition of the mother is good, he should prescribe for her, by way of further prophylaxis, 5 grains of quinine three times a day for three or four days, and ergot and hydratis with nux vomica for two weeks; and he should enjoin upon her the reasonable necessity of remaining recumbent in bed for three weeks,—I had rather advise four. And this is advised in deference to the following facts: The upright or sitting posture is in no wise essential for proper drainage or the woman's comfort; after labor the womb requires six weeks or more for its perfect involution; the heavy puerperal uterus is easy of displacement and consequent subinvolution, when

the woman leaves her bed for any purpose; and "smartness" in the early weeks of confinement is the one fruitful cause of malposition and subinvolution with their numerous evil brood.

As a further aid to early involution, the physician may safely advise after the twelfth day postpartum copious hot vaginal douches once or twice a day. They will give a sense of cleanliness and a feeling of comfort; and their effect, both local and systemic, is every way desirable.

Unless there be some special indication, as we have seen, for vaginal disinfection, no douche should be given antepartum, and, short of the twelfth day, postpartum, none should be given, except after operations and instrumental deliveries, or for the arrest of postpartum hemorrhage, or for the prevention of further septic absorption when this is thought already to have begun. In the latter instances the douche should be first vaginal and then intra-uterins through a Fritsch-Bozeman tube.

And yet I have no doubt that the comfort of every woman just delivered would be enhanced by an immediate postpartum vaginal douche of hot sterile water as a part of her cleansing. Nothing but the fear of infection by this procedure forbids its routine use. It would tone a tired and relaxed uterus; it would soothe bruised and wounded tissues; it would wash away clots and possibly shreds which easily infected might become a prolific source of infection. If this immediate hot sterile douche were followed three times a day for a week postpartum by a copious warm douche of boric acid, one or two drams to the pint of sterile water, it would be conducive to comfort and beneficial in fact,—provided it were given under rigid aseptic conditions. But in questionable hands it is omitted; so the woman is safer from sepsis if the vagina is left to care for itself when the labor is ended.

If it had been written in the Holy Scriptures that Jonah swallowed the whale, and not that the whale swallowed Jonah, this statement, notwithstanding the disparity between mouth

and morsel, would have found easy credence among the faithful, because the faithful would see that all things are possible with Omnipotence. That the whale swallowed Jonah is easy of belief for both mechanical and anatomical reasons. And for valid analogies, indeed, it should not be hard to believe any of the miracles of the Scriptures, if we consider a moment the wonderful things around about us. That charming old French essayist, M. Montaigne, declared that he accepted them all for the reason that he discovered in his own body greater miracles than Jewish historian or Christian evangelist anywhere records. Physicians may be careless obstetricians sometimes; but in labors in homes, medical men deliver but a meagre portion of the incoming population. The inevitable tide of domestic immigration flows towards the midwives. The private practice of obstetrics is mainly their work. When one inquires into the character and qualifications of the average midwife, it is little short of miraculous that so many children live and so few women die when the baby comes.

But some one has said that God always takes care of children, fools, and the United States. The birth and splendid growth of our nation declares the divine blessing attendant upon it; the multitude and fair fortune of fools shows that they are loved and held by some mighty hand; and the deep eyes and joyous laughter of children bespeak their easy citizenship in the Kingdom of Heaven. But the mothers of the children, these highest organisms following their highest instinct and fulfilling their highest destiny, who cares for them? God takes care of the mothers also. The makers of the prayer-book recognized this fact and the need of it, when they taught us to pray for all women in the perils of childbirth. Oh! it is wonderful, God's care of mothers from Mary until now!

But I am not sure that the Lord is well pleased that you and I and the people of North Carolina only pray for the mothers in their travail, leaving them in their supreme hour,

when most of all they should be the recipients of high-born kindness and the highest benefit of skill and science, to suffer in the hands of superannuation, superstition, blind stupidity, and contented ignorance; in the hands of midwives, careless and unclean, dull or overwise in their own conceit, pestilential examples of dismal incompetence and inefficiency.

You have seen their work and the wretched fruitage of it. Not long ago I delivered a placenta and checked a hemorrhage and contended four hours with the powers of darkness to re-balance a mother who was sinking away from her children in the sympathetic presence of stolid helplessness. And twice these few months I have fought sepsis following the service of the most experienced and knowing midwife in my community. In January I drove twelve miles one bitter cold night to see a mother with babe five days old. She had a child that morning, I was told, and the babe was having spasms. I found her with sharp temperature, perspiring freely, face anxious, intellect clear, teeth clenched, and head drawn back into her pillow. The child lay on a pillow in a chair near the fire—cyanotic, generally spasmodic, and spasmodically dyspnoeic,—a pitiable picture. This mother and her babe died within thirty hours after the onset of tetanus communicated to both by the dirty hands of a kind-hearted old negro midwife; who could accurately foretell the number of subsequent pregnancies by counting the lumps on the cord; and would not for anything wash the baby until the afterbirth was come; and would not dispose of the afterbirth without first sprinkling it with salt, and would not sweep under the bed during the lying-in period; lest, forsooth, some dire mishap should surely befall mother or child. To be sure, this stupid midwife is unconscious of her crime; the public takes no account of it; the husband paid her fee and speaks of her kindness to his wife; and the little children know only that their mother was buried when there was snow on the ground.

And why should not the husband, all crushed as he was, pay the midwife and thank her, too? He was poor and she

was industrious. She washed the baby and all its belongings; she washed the soiled bed-clothes and garments of the wife; she brought in the wood and picked up dirty chips from the woodpile to keep the room warm and comfortable; and then she warmed her hands and washed the lochia from the genitals. No service was too menial for her willing hands to do. And so she did what she could; she cast in her mite.

This hard problem would be solved by the transfer of parturients to maternities for childbirth in place of allowing confinement at home. But this solution is impracticable. Limitation of the practice of midwifery to medical men would approach a solution. But this, also, is impracticable for sundry and evident reasons. In most sections, the midwife is a necessity, a necessary evil. But the profoundly ignorant, or criminally wise, and unclean midwife is not a necessary evil anywhere.

In the face of conditions like these, the public plods on, demanding no amelioration. "Such things be, and overcome us like a summer cloud, without our special wonder." So men go undisturbed amid the blood and carnage of the battlefield; it is seen so often; it seems so unavoidable; as it is now, it always has been; it is necessary. So the public wears without protest the old clothes of crooked custom. The public is too ignorant to demand amelioration. The public needs to be taught. It is the peculiar province of this Society to teach the public.. It always waits to be taught and it is always responsive to your teaching. Let the profession teach the public the importance of a mother's confinement.

Already you have taught the public that anybody is not good enough to treat a fever; teach it now that anybody is not good enough to attend a labor; teach it more— that only the best obtainable is good enough at a time so full of eager solicitude, so pregnant of immediate possibilities and far-reaching consequences. If you would better the public health, here opens the most fertile field for your efforts.

If this Society would consider the feasibility of some legislation looking to the instruction of midwives, even if that instruction went no further than the teaching and enforcement of asepsis, it would confer a signal and lasting benefit upon women and entitle itself to the State's amplest gratitude. There must be some balm in Gilead. Surely something better can be done for the average mother when the baby comes; something for safer, stronger motherhood; something for more hopeful and helpful companionship of women with men; something for the betterment of the race in the bearing of stronger babes on the breasts of sounder mothers.

EXTRA-UTERINE PREGNANCY, WITH REPORT OF FOURTEEN CASES AND NO DEATHS.

BY J. W. LONG, M.D., GREENSBORO, N. C.

I desire to report briefly all the cases of ectopic pregnancy that have come under my care and to make comments on certain phases on the subject.

I use the term "extra-uterine" in the title for the reason that although thirteen of the cases herein reported were tubal, one was probably ovarian, while all were extra-uterine.

I find on referring to my records that I have operated on fourteen cases of extra-uterine pregnancy. Six of them have been reported in a former paper, therefore will not be mentioned except in barest outline. Seven of the cases occurred within the period embraced by March 6, 1905, and April 16, 1906.

All fourteen cases were treated by either abdominal or vaginal section and all recovered. It is rather remarkable what good health these women enjoy after recovering from their malady and operation.

The first two cases occurred in my earlier surgical work, before I began to systematically keep record of my cases, and beyond the fact that one was ruptured and the other unruptured and both recovered I have no data.

Case I.—Tubal pregnancy rupture, vaginal section, recovery.

Case II.—Tubal pregnancy not ruptured, abdominal section, recovery.

Case III.—Tubal pregnancy ruptured at ninth week, abdominal section, recovery.

This patient had been sterile for several years. She ruptured the tube at the end of the ninth week of pregnancy by sneezing while sitting at the table. The rupture occurred on the auterior surface of the distended tube. There was a well-formed placenta in the tube.

Case IV.—Ovarian pregnancy, rupture probably due to palpitation, abdominal section, recovery.

The only interesting features about this case were that the patient was the wife of a physician, had not heretofore been pregnant, had, when seen, the symptoms of an eight weeks' ectopic gestation, and when the abdomen was opened the tubes were found to be normal, but the right ovary was the site of a newly-ruptured cyst containing blood clots.

Case V.—Ruptured tubal pregnancy, pelvic abcess, vaginal section, recovery.

This case is noteworthy because of the extreme suffering and emaciation, and the recovery of the patient following an operation done three months after the rupture had occurred.

Case VI.—Tubal pregnancy, attempted abortion, rupture, septic peritonitis, vaginal section, recovery.

The interesting points in this case were the attempted abortion by the patient by inserting a pencil into her uterus, the intense septic infection following the tubal rupture, and the enormous quantity of blood clots and placental tissue removed with the tube at the operation.

Case VII.—Tubal pregnancy, had been sterile eleven years, ruptured at the eighth week, abdominal section, recovery.

Mrs. B., residence High Point, N. C., age about 35, white, married, the mother of several children, the youngest of which was eleven years old, missed two periods, was seized with an acute pain in the left side of pelvis. Her physician, Dr. W. J. Vestal, was called and prescribed for the pains. The next day a scanty uterine flow appeared. The pains and flow continued, requiring frequent doses of morphine. After ten days Dr. D. A. Stanton was called in consultation and diagnosed ruptured tubal pregnancy. By this time a large tender mass choked the pelvis and distended the lower abdomen, es-

pecially on the left side. The temperature was slightly elevated and the pulse 90. The writer was called, and concurring in the diagnosis, opened the abdomen as soon as preparations could be made. The operation was done at the patient's residence. The mass consisted principally of blood clots hiding a ruptured left tube, which in turn contained a part of the placenta. The striking feature of the case was the absence of inflammatory changes. The intestines seemed to be simply stuck to the coagulated blood which lifted them up en masse.

The tube was quickly enucleated, the peritoneum cleansed and the incision closed without drainage. The convalescence was very prompt and satisfactory.

Case VIII.—Tubal pregnancy, rupture at the seventh week, operation two hours post trauma, recovery.

Mrs. J. C. S., white, age 26, married seven years, never pregnant and periods had always been regular. Her family history is good except one brother died of tuberculosis. At 18 the patient had tuberculosis of the spine and was sick three years, resulting in a marked degree of kyphosis. For a year prior to her present trouble she wore a plaster of paris jacket with most noticeable benefit.

Her periods had been regular, the last one appearing on January 16, 1905. March 6th she was taken with rather sharp cutting pains in the left side of the pelvis. The writer saw her at 12 o'clock, and learning of the absence of the periods for seven weeks suspected a tubal pregnancy with threatened rupture, and so advised the patient. No vaginal examination was made because the patient did not seem to be very ill, and she was so fat that bimanual palpitation could not be satisfactorily done. At this time her pulse was 80 and her temperature 98.6 degrees. Deod. tr. opii. was prescribed and the patient instructed to remain quietly in bed and to notify the writer on the least exacerbation of her symptoms. At 5 p. m. the same day a hurry call was sent to

see this patient. When I reached her it was quickly evident that she was greatly shocked. In reply to a question she said "I am almost dead." The pulse was barely perceptible, the temperature was 97, and the extremities cold.

Fortunately the patient lived near the car line. She was gently lifted onto a cot, which in turn was placed on the platform of the street car and rapidly taken to the hospital. Without removing the patient from the cot her plaster jacket was quickly cut away and ether administered. The anæsthetic revived the pulse a little, and the patient was cautiously placed on the operating table. "Rapidity" was the slogan. By seven o'clock, or two hours after the evident time of rupture, the abdomen was open and the bleeding tubal vessels clamped. The abdomen contained a large quantity of fresh blood clots. The left tube was ruptured from a pregnancy near its fimbriated end. The bleeding mass was tied and cut away, and peritoneum carefully cleansed and left full of salt solution, and the abdomen closed without drainage. The recovery was prompt and uneventful. The patient has become very stout, and is now eight months gone with an intra-uterine pregnancy.

Case IX.—Tubal pregnancy, rupture about the tenth week, profound shock, operation, recovery.

Mrs. F. R., white, age 31, married for five years. She was never pregnant, periods regular and normal, and had never been sick.

On March 20, 1905, her period appeared as usual, but she was nauseated and suffered with severe headache. April 23d the period appeared again on time and lasted the usual three days. From this time on the patient felt that there was something wrong in the pelvis. She consulted a very capable physician who said her uterus needed curetting. After this examination the local conditions were rather worse, but she had no uterine flow.

May 8th, after bidding "good evening" to a friend and

locking the door, she was suddenly seized with an agonizing abdominal pain that continued without remission. The writer saw the patient in about half an hour. She was profoundly shocked, almost unconscious, pulse very feeble and frequent, skin blanched; temperature 97 degrees, and the patient writhing in pain. It was three days before this patient's temperature reached normal. May 16th she was taken to the Greensboro Hospital and the abdomen opened. The right tube was found to have contained a pregnancy and had ruptured, pouring an immense quantity of blood and detritus into the abdominal cavity. It was deemed best to drain this case. The convalescence was rapid and the ultimate recovery perfect.

Case X.—Tubal pregnancy, rupture, appendicitis and peritonitis complicating, operation eight months after rupture, recovery.

Mrs. R. L., age 22, married February 8, 1904. Her periods were always irregular. I quote the patient's words: "I don't remember date of periods in May and June. but period in July was the 20th, but I suppose about the 10th of May and 15th of June, as they occurred about four or five weeks apart. I occasionally had nausea, but no other symptoms of pregnancy. My period appeared August 26, 1904, and from that time until Sept. 14, 1904, I remained unwell, with no more pain than usual at my periods. I was then taken suddenly with violent pains in my bowels and an increase in the uterine flow. Nothing eased the pain except morphine. I came to Raleigh September 18th, and on the 19th my womb was curetted; after this the pain ceased, but the flow kept up (very dark in color). On the tenth day after the curetting I was again taken with violent pains in my stomach and bowels, and was very ill with peritonitis. I sat up the 1st of November, continued to improve and was soon out again. I had my periods about every six weeks, yet a very slight flow between periods, and occasionally pain

and nausea. This continued up to the time you saw me in Greensboro."

When first I saw this patient, April 15, she was very ill with peritonitis. She was at this time living in Greensboro and under the care of Dr. Charles Roberson. Together we continued to treat her until May 17th, when she was moved to the Greensboro Hospital and operated on. On opening the abdomen marked evidences of a former widespread peritonitis were seen, and the pelvis was choked with a mass of adherent intestines and omentum surrounding a ruptured right tubal pregnancy and incorporated in the mass was the distal perforated end of the appendix. The clots and detritus looked old and had probably been there since September 11th, or nearly eight months. The damaged organs were removed, a careful toilet made and drainage established. The convalescence was very satisfactory and as rapid as the nature of the case permitted.

Case XI.—L. L., colored, age 18, married two years, was seen August 15, 1905, with Dr. J. E. Dellinger, of our town. She had never been pregnant and her periods were normal until May. She missed her periods in June and July. July 31st she was suddenly seized with severe pains in her pelvis.

When seen by the writer there was a tender mass filling the pelvis and projecting well into the abdomen. The temperature was 102 degrees, and the pulse 120. Under the circumstances it was deemed best to make a vaginal incision, which was done at the patient's residence. Many blood clots and much detritus were removed and drainage established. This patient improved, but not in the ideal way. The temperature while lower continued above normal. After about three weeks a bulging was noticed in the right inguinal region. Under the cocaine locally thick mass was drained, after which the patient made a rapid and perfect recovery.

Case XII.—Ten weeks tubal pregnancy, unruptured, operation, recovery.

Mrs. B., white, age 30, married 7 years, child 6 years old,

periods always regular. From her December period she did not get well, but continued to flow scantily and at times profusely. She occasionally passed large lumps of fleshy-looking masses and clots. She had no idea she was pregnant and went on a trip of 65 miles to see her people. While there she became worse and had a physician to see her. On returning home my associate, Dr. J. H. Boyles, saw her but made no vaginal examination. A few days later I saw her and suggested an examination. On February 1st she came to my office and I discovered a mass in the left side of the pelvis which extended in front of the fundus. She was advised to have an immediate operation. February 3d she entered the Greensboro Hospital. After gently dilating the cervix and assuring myself that the uterus was empty I opened the abdomen. The left tube contained a pregnancy and was involved in a mass of adhesions with the ovary, uterus, intestines, omentum and bladder. Extending out in front of the fundus and above the bladder, apparently a part of the tubal mass, was a cystic collection of straw-colored fluid. This cyst ruptured after it had been carefully peeled off from the bladder. The adhesions were freed, the tube and ovary tied off en masse, and the abdomen closed without drainage. This patient was walking on the tenth day, and went home on the 14th day following her operation.

Case XIII.—Tubal pregnancy, rupture fourth week, operation seven weeks after rupture, recovery.

Miss X., was regular until January 16th, when her periods came five days late. She suffered no especial inconvenience until February 8th, when she was taken with violent pelvic pains. She was seen by Dr. W. J. Meadows who advised operation, but this was declined as the patient became some better. March 5th she was taken the same way. Dr. Kernodle saw the patient, and I saw her a few days later in consultation. The pelvis and left side of abdomen was filled with a tender mass. The patient still declined operation.

March 19th she came to the Greensboro Hospital. The mass by this time had extended well into the abdomen and was larger on the right side than the left. March 20th an abdominal section was done. The omentum, intestines, uterus, etc., were adherent to a double mass in the pelvis. A left tubal pregnancy was found. The right contained a pint and a half of straw-colored fluid. The patient made a good recovery.

Case XIV.—Tubal pregnancy, rupture abdominal section, recovery.

Mrs. L., age 28, married ten years, has had four or five abortions, periods usually regular. February period occurred on the 28th. March 28th she was taken with severe pains in the right side of pelvis. Temperature was sub-normal; there was considerable shock, and a moderate uterine flow began which has continued ever since. The pains recurred almost daily. Her physician diagnosed ectopic pregnancy and advised operation. Patient entered Greensboro Hospital and was operated on April 16th. The right tube was the site of pregnancy; had a small rupture, pelvis was full of blood. The left tube was the site of a hydro salpinx the size of an orange, many adhesions were present. The recovery was very prompt and perfect.

My experience with extra-uterine pregnancy has of course been limited, since 14 cases is a small number, but in thinking over this matter the first thing that attracted my attention was the fact that as one's experience enlarges the more of these cases does he see. For instance, I began practicing medicine in 1881 and to give special attention to surgery about 1887, and up to one year ago I had recognized only seven cases of extra-uterine pregnancy, while within the 13 months I encountered seven cases, operating on two of them on successive days.

The next item that struck me, and that very forcibly, was the fact that a woman may live a long time with a ruptured

ectopic pregnancy in her abdomen. My records show the time of operation to vary from two hours to eight months after rupture has occurred. This is a startling fact and offers a grain of comfort showing what wonderful provision nature, which is only another name for an all-wise Creator, makes for the preservation of human life. But this immunity from immediate death should not mislead us, for these women without exception are desperately ill from the moment of rupture, and I believe at least 65 per cent of them must ultimately have died without operation, indeed many immediate deaths have been recorded due directly to the hemorrhage and shock. I believe that any woman in whom we have any cause to suspect the possibility of pregnancy, who is suddenly overcome by great and inexplacable shock, should be examined for the presence of a ruptured ectopic pregnancy. In this way some sudden deaths may be explained or even prevented.

The third and most practical conclusion to be drawn from this study is that these cases, early or late, ruptured or unruptured, simple or complicated, are amenable to surgical treatment. True, all that are operated on do not recover, but a death following operation is the exception. Think for a moment that it has only been twenty-five years since Tait operated for the first time on a case of tubal pregnancy, and even for years after that the condition was considered a pathological rarity. How many women must have died from ruptured ectopic pregnancy in the six thousand years of the world's history.

Touching only one other phase of the subject will I ask your kind consideration. The etiology of this freak pregnancy has been brought forward that perhaps helps to explain both the cases and sequel of ectopic gestatism.

The biology that most of us were taught said that the impregnated ovum fell among the uterine follicles which rapidly became hypertrophic and enveloped the ovum in their arms as it were. Peters describes the earliest known human ovum,

which was secured from a woman who suicided three days after missing her period. He shows clearly that the ovum is the active agent and that it erodes or destroys the tissues of the mucosa making for itself a cavity or bed into which it sinks. Prof. Minot, of the Harvard Medical School, has proven by experiments with embryos in the lower animals that certain of the chorionic cells have the property of destroying tissues, and it is believed that the same is true of the human ovum. Minot says the ectodermic cells of the chorion become hyperthrophic and are known by their large size. These cells he calls the trophoderms and possess the destructive power by Peters. The production of a cavity in the uterine mucosa by the digestive properties of the trophoderms and the lodgment of the ovum in the mucosa is styled by etymologists "implantation." In other words, the ovum is the action agent in the process of implanation, and its activity depends largely on the destructive properties of the trophodermic cells of the chorion.

Now for the application. Suppose for any reason the impregnated ovum is delayed in the tube, the trophoderms quickly get in their work and in the thin-walled tube erode a hole entirely through or cause the ovum to become implanted so close to the peritoneal surface as to easily cause rupture by blood pressure.

Goffe, in discussing this matter before the American Medical Association, cites a case in point. At operation he found abundant blood in the abdomen and only a pin-hole opening in the tube filled with a blood clot. An examination of the interior of the tube after removal "gave no indication of the development of a placenta or chorionic cells. The ovum at a very early state must have eroded its way through the tube, and the hemorrhages must have been quite frequent if not continuous." Goffe also cites a similar case occurring in the hands of Paul Zweifil.

ON WASHING THE HANDS.

BY HUBERT A. ROYSTER, A.B., M.D., RALEIGH, N. C.

The most vital part of a surgeon's technique is the sterilization of his hands. He may be versed in pathology and diagnosis or possessed of the cleverest manual dexterity; he may have the most superb equipment that eleemosynary display, public graft or private vanity can provide; he may disinfect the very atmosphere of his operating room, boil his nurses, or feed his assistants on sterilized milk, but without clean hands it is all of no avail.

Not only to the surgeon, but to the general practitioner as well, it is of great consequence to know how to clean the hands. There is no physician who may not at some time be called upon to "wash up" for an operation. The various minor surgical procedures—and perhaps the so-called major ones too—will fall to lot of many. Obstetrics, the particular function of the family physician, is distinctly and always surgical art, and the doctor who has not learned to wash his hands should never be allowed to attend a woman in labor. In every department of the medical practice a working knowledge of hand disinfection is essential.

It cannot be denied, further, that the really important element in the process of sterilizing the hands is the preliminary washing or mechanical cleansing which they should always receive. The infinite variety of chemical agents used as germicides by different operators over the whole world is evidence that none of them is indispensable. Concerning these I shall have nothing to offer. Combinations and sequences of them have been suggested from time to time as methods of hand disinfection and, in some instances, their significance has been exaggerated. My own opinion is that, if I had to choose between the two, I should omit the chemical solutions rather than do without the brush, soap and hot water. So much attention has been centered upon the order of dipping

the hands in this or that solution that the question of washing the hands is repeatedly slighted or ignored. There seems to be more concern to kill than to first remove the microbes.

With no intention of belittling the merit of the ordinary solution for the hands the present purpose is to point out the value of proper methods in washing the hands and to recommend a plan which has been found reliable. It is taken for granted that most surgeons, who operate frequently, are using rubber gloves—in clean cases to protect the patient; in dirty cases to protect themselves. We are certainly doing cleaner surgery with gloves. But under some circumstances they cannot or will not be worn, and, gloves or no gloves, it is first necessary to render the hands as sterile as possible. It is freely admitted that there is no known process in every instance by which the hands can be made bacteria-proof.

There is apparently no good reason why we should not observe order and system in hand-washing as we do in using the solution or in performing the operation. Haphazard ways in this feature of the technique are apt to be as dangerous as in the other details. And it is not altogether a question of the amount of time spent over it either. One who is experienced and who practices a definite plan may wash the hands very clean in a short time, while the bungler or novice may take twice as long and never get them clean.

The usual ideas in vogue for washing the hands previous to operations are to scrub them for five to ten minutes in hot water with brush and some form of soap. With no more specific directions than these, operators are content to go on with their work and students are sent out every year from medical schools. Who has not seen the most eminent surgeon stand in the amphitheatre and scrub the palms of his hands for fifteen minutes, splashing right and left, and never touch his nails or knuckle-creases with the brush? If it is worth doing at all, it is worth doing right. More particular rules are needed—and not alone for beginners—as to the time

spent, the kind of brush or other implement for scrubbing, the order of using them, and the varieties of soap. Above all the system of going over the hands, region after region, should be emphasized.

It has already been intimated that time cuts very little figure, provided a certain program is carried out. Five minutes may be sufficient to the practiced surgeon. More than this will be needed by the infrequent operator. One should think not so much of the minutes as the realization, from experience, that he is actually cleaning his hands, in every nook and cranny, by an intelligent and well-directed attack on the dirt, whose presence he is honestly aware of. The "aseptic conscience" belongs here.

In order to detail the other points at issue it will be well to outline the plan to be proposed. The following technique has been in use about two years and gives satisfaction: Before the surgeon goes into the operating room, while he is still in his dressing room or elsewhere, he washes his hands twice over with hot water and any good soap. They are then "socially" clean. As soon as he goes into the sterilizing or operating room he begins by washing the hands once (without the brush) with some form of sand-soap, like hand sapolio, or even the ordinary sapolio. This removes the outer layer of dirt and epithelial scales. It is continued with the aid of an ordinary wash-cloth made of toweling—not gauze, as employed by some. Very little water is used in this procedure, but the cloth is wet, the sapolio rubbed on freely and the skin gone over thoroughly and vigorously. The order is to begin first with the arm at the elbow (the cleanest part) and to come down, going around and around; next the wrist, along the folds; next the back of the hand; then each finger is taken separately, and, using more and more of the sapolio, a rotary scrubbing motion is made, after the fashion of polishing a brass rod. This cleanses the fingers as no other plan can do, going completely around, as it is impossible to ac-

complish with the brush. It is astonishing how much dirt may be removed from the hands in this way. When the fingers are finished the webs between them are attacked, and finally the ulnar surface of the hand is especially attended to. This process is done twice for both hands. They are now more than "socially" but not quite "surgically," clean.

The wash-cloth is here discarded and the hands rinsed. Sterilized tincture of green soap is now applied all over the hands and arms and they are washed simply with water. A sterile brush is taken up with more green soap and a careful scrubbing under water in a deep basin is done after the same order as with the sapolio and wash-cloth. Particular regard is paid to the nails and depressions around them, for only the brush can attend to these parts. Three times over is the allotted number for each hand and arm—more, if needed, depending on the care taken.

It will be noticed that when the sapolio period was finished the hands were exceedingly clean before they touched soap or brush, and, therefore, practically no contamination occurs. After the brush-scrub the hands are all but surgically clean, and when they have been dried on a sterile towel they are ready to go into alcohol, or whatever solution may be used to perfect the final disinfection.

The advantages of this method can be plainly seen. The simplicity of detail, the systematic steps, the reasons for each rule laid down are all apparent. The points for especial observation are, first, the progressive degrees which lead up to very clean hands before the brush is used and to their being practically sterile before they are ever put into a solution; second, the employment of sand-soap and wash-cloth for removing the gross surface dirt; third, the scrubbing by a brush, not, as is customary, without design, but according to a definite plan, which, done over and over again, soon becomes automatic.

PUERPERAL ECLAMPSIA.

BY M. R. ADAMS, M D., STATESVILLE, N. C.

The term eclampsia is applied to convulsions, tonic and clonic in character, which may occur in the pregnant parturient or puerperal woman, during which there is a loss of consciousness, followed by coma.

Clinical History.—As a rule, eclampsia does not occur very often, probably one time in three hundred, and the disease usually occurs during the second half of pregnancy, but cases are on record as occurring as early as the fifth month of pregnancy. A large per cent of all the cases that have come under my observation occur in primiparous women, and it is stated that it is much more frequent in twin than in single pregnancies, though I am not able to corroborate this statement. Sometimes the convulsions come on without any premonition whatever in women that are in apparently good health, but a large majority of the cases that I have observed the attack is preceded by well-defined premonitory symptoms, indicative of the toxæmia incident to pregnancy, among the more prominent being headache, disturbance of vision, epigastric pain, restlessness, and often more or less edema, with a diminished quantity of urine.

When the attack comes on among the first symptoms observed is a fixed expression of the eyes, which soon commence to roll from side to side, the mouth begins to twitch and is in some cases drawn to one side; the face becomes distorted and then the entire body becomes more or less involved. The patient often foams at the mouth, bites her tongue, the breathing is labored and stertorous and the face congested. The convulsions may last for a few seconds to two or three minutes, the patient being unconscious and then passing into a profound coma.

I have seen one convulsion occur during the latter part

of labor, and recovery ensue without any recurrence of convulsions, but oftener the first is but a forerunner of other convulsions which may vary from one to fifty or more in fatal cases. When the convulsions do not occur often the woman usually recovers consciousness after each attack, while in some cases the coma persists from one attack to another, and death may occur without awakening from it.

Death in rare instances occurs after one convulsion, though as a rule death does not occur until after several attacks. In a small number of cases I have seen the temperature run very high, and it is always considered a dangerous omen. There is some discrepancy of opinion among authors as to the cause of the high temperature; some claim that the poison that gives rise to the eclampsia also stimulates the thermal centers, while others claim the fever is of an infectious origin.

As the eclampsia first appears, before or during labor or soon after delivery, it is designated ante-partum, intra-partum and post-partum eclampsia; the last or post-partum is the least common, only two cases have occurred in my practice. When ante-partum eclampsia occurs labor usually sets in and a premature child is born spontaneously or the womb is emptied by operative measures.

In a small number of cases labor does not supervene, and if the woman survives the attack she may give birth to a dead foetus, and occasionally the patient may recover from the attack and give birth to a living child at term.

In post-partum eclampsia all the cases that have come under my observation, with one exception, there was but one convulsion. I have observed in a small number of cases a jaundiced condition soon after the convulsive seizure; this symptom is of rather grave prognostic significance and indicates hepatic lesions.

During the eclamptic attack the urine is diminished in quantity, while occasionally the secretion is suppressed, and a chemical analysis nearly always reveals the presence of albumen. In a large majority of cases the urine rapidly be-

comes normal and in a short time gives no evidence of the previous pathological condition.

Pathology.—I am candid to admit I know very little about the pathology of eclampsia, and it is not the purpose of this brief and imperfect paper to enter the maize of theories about the pathology of this disease.

After the presence of albumen in the urine of women suffering with this disorder it was generally believed that the diseased condition was of nephritic origin and to be identical with uræmia, when it was found that a small proportion of the women suffering with chronic nephritis this view was gradually abandoned.

In looking over the different authorities on the subject, the evidence at hand would seem to indicate that the renal changes, while frequently present, are not as a rule sufficiently marked to justify one in considering them as the characteristic lesion of eclampsia, which must therefore be looked for in some other organ.

Some French observers believe that the hepatic changes are so characteristic and constant that the primary lesion of the disease is due to the impairment of the hepatic function, while others have made statements concerning the pathological findings of the brain, edema, thrombosis, apoplexy being described as the main lesions, it is therefore apparent that the main lesions in eclampsia are found in the kidneys, liver and brain; but in view of the marked discrepancy in the statements of the various authors concerning their relative frequency and importance it would seem that the anatomical changes are not constant, although those of the liver are probably the most characteristic.

Etiology.—A number of theories have been advanced as to the cause of eclampsia, but as yet the exact nature of the poison is not known. Certain conditions are known to predispose toward developing the malady such as renal insufficiency, imperfect function of the bowels, skin and multiple pregnancy.

The general accepted theory is that the disease is due to the circulation of some toxic agent in the blood; as to the exact nature of the offending substance we are yet ignorant.

In concluding my remarks on the etiology of this disease I desire to quote an American author, who says:

"It appears that the evidence thus far adduced by the various authors in favor of the auto-infectious theory, though not conclusive, is sufficiently suggestive to warrant its tentative acceptance, at least until some better explanation is produced."

Diagnosis.—There is usually not much difficulty in arriving at a correct diagnosis, if the woman has been under observation during the latter months of pregnancy.

It becomes necessary to differentiate between epilepsy, uræmia and hysterical convulsions.

Prognosis.—The mortality of eclampsia depends in a large measure on the promptness and thoroughness of the treatment instituted. It is considered one of the most dangerous conditions the obstetrician has to deal with. The mortality varies under different circumstances; the maternal mortality is about 30 per cent, and that of the foetus much larger.

My experience is the prognosis is more unfavorable when the convulsions come on before or during labor, whereas the post-partum eclampsia is less dangerous.

There is considerable discrepancy of opinion concerning the relative prognosis of primiparous and multiparous women, in all probability the prognosis depends more on the severity of the attack than upon the number of children the woman has borne. When coma comes on after each seizure and the convulsions follow in rapid succession the prognosis is more unfavorable. A weak, rapid pulse, with a high temperature, indicates an unfavorable termination; whereas a full and firm pulse, with low temperature, indicates a favorable prognosis.

Treatment.—The prophylactic treatment is always important; there is often renal inadequacy, and it is important to

make frequent examinations of the urine during the latter months of pregnancy and note the quantity passed daily.

Adopt a suitable line of diet such as milk, fruit, bread and poultry, avoiding the heavier and less digestable meats, tea, coffee and all stimulants should be strictly forbidden. Always keep liver, kidneys and skin in an active condition. When convulsions come on chloroform is by far the most prompt and valuable agent we possess; chloral hydrate, the bromides, opium and morphine hypodermically in large doses are all valuable remedies; veratrum viride I have used with gratifying results, when used judiciously it is an agent of great power and usefulness.

As to the treatment of toxæmia, secure prompt and vigorous elimination by catharsis, diuresis and diaphoresis.

In my opinion croton oil and calomel stand first in the line of cathartics; salts, jalap and other remedies of the same class are used.

To arouse the action of the skin, apply blankets wrung out of hot water and apply to the body, and then put a dry cover or blanket over the entire body of the patient.

The kidneys are stimulated by giving liberal quantities of water, if patient can swallow.

The normal saline solution by giving it under the skin or into the bowels.

Venesection should be classed among the eliminative measures, though at present I believe it is somewhat in disfavor. I have time and again used it with very decided benefit, more especially in large plethoric women.

The average woman possesses, approximately, eight pounds of blood, and about one-eighth of its total bulk can be drawn off and replaced by salt solution; thus in a measure diluting the poison and thereby aiding nature.

If the convulsions once occur the pregnancy or labor, as the case may be, should be terminated as soon as consistent with the safety of the patient.

Some advocate the administration of morphine in large doses and not interfering until the cervix is completely dilated, and then employing forceps or version; while on the other hand some advocate the idea of emptying the uterus at an earlier period if it can be done without injury to the mother. After one convulsion I am always uneasy as to my patient's safety until the womb is emptied.

During the earlier period of my professional career I was inclined to the opinion that paliative, rather than active treatment was the most judicious course to pursue, but my views have changed, and now my opinion and experience is that prompt delivery is indicated whenever it can be accomplished in a conservative manner, and I believe the statistics confirm this opinion. In looking over some recent statistics bearing on this point it is stated that there is a cessation of seizures either immediately or soon after delivery, the report showing a mortality of 28 per cent under expectant, and 11 per cent under active treatment.

To Summarize.—First. That the exact nature of the pathology and etiology of this disease is yet unknown; we believe that there is a toxic agent circulating in the blood which needs to be eliminated.

Second. That chloroform, chloral, hydrate, the bromides, opium, veratrum, viride are remedies which have been extolled from time to time as useful in this disease, and they are simply remedies which will hold the seizures in abeyance until elimination can be accomplished.

Third. By elimination I mean catharsis, diuresis, diapherisis and emptying the womb.

SOME VIEWS OF CURETTMENT OF THE UTERUS.

BY M. A. ROYALL, M.D., YADKINVILLE, N. C.

In this paper I make no pretensions to discuss all the conditions that indicate curettment of the uterus as a means of treatment, nor the minute pathology of the different forms of disease in which it is commonly used. If anything I say suggests an agreement or disagreement I ask for a candid discussion, not only from the specialist, but from the general practitioner also. I aim to give a very brief summary of the practical points from the standpoint of a general practitioner whose practice is remote from hospital centers. While in Philadelphia I heard a noted specialist say that while the general practitioner, who in most cases is not capable of making even a gynecological diagnosis, is apt to put in a pessary or scrape out the womb, often with the result of starting a pelvic inflammation that may end in death. We general practitioners see our patients going to the specialists who are numerous in villages and cities. The specialist in gynecology is among the most active. When we look over the statistics of hospitals we find curettment by far the most numerous among operations, and wonder if it is really so necessary. I think it would be instructive to follow these cases, and if possible take an internal view of the uterus and its surroundings and determine the conditions of the patient, physically and mentally. I think I might compare the results of the general practitioner's work with the results of the over-zealous operator, with credit to the former. But we bless the honest, conscientious specialist to whom we are ever glad to turn in times of great responsibilities. The operator should have a definite knowledge of the conditions he is to relieve, based on pathological and bacteriological data and on clinical experience. The recent graduate is skilled in pathology and bacteriology and is impressed with the idea that his diagnosis will

be accurately made from this high standard. He will examine specimens for pathological lesions and bacteria, make blood counts, etc. That is all right, but he will depend on this means of diagnosis more at first than later, when he will be guided largely by experience. We are instructed that all scrapings from the uterus should be examined under the microscope. In the city the surgeon has but to direct the pathologist to make the diagnosis and report. We hope the time will soon come when there will be an expert microscopist within reach of all general practitioners. The graduate of some years ago is not so familiar with bacteriology and pathology as the recent graduate, and consequently must depend upon practical experience. I shall very briefly discuss curettment in three conditions, viz:

1. For the removal of the remaining portions of an incomplete abortion.

2. For removal of septic matter after delivery.

3. For the removal of the superficial portions of the uterine mucosa in endo-metritis.

The physician spends may anxious hours waiting for the successful end of an abortion. We are advised by the extremist that if abortion is sure the patient should be given an anæesthetic, the cervix dilated, the uterus scraped with a sharp curette and the decidua removed, whether there is sepsis or not. In the light of my past experience I am not yet convinced that such a vigorous procedure is necessary. I do not think we are justified in putting a patient under an anæesthetic until we are sure it is necessary, for I fear it may have remote effect which we never take into consideration. I think the abortion may be so managed and nature so assisted that the use of the curette will be seldom needed. In the first years of my practice I used the method of carefully and tightly tamponing the vagina, gave a sedative if necessary, and waited for the pains to do the work. In a few hours I removed the tampon and usually I found the abortion

complete. Sometimes it was found in the cervix and easily removed. In cases of early abortion, if a bad odor developed I dilated gently with finger or dilator, removed what was left with the finger or dull curette, used an antiseptic intra-uterine douch, and drained. I never packed the uterus for the purpose of drainage. I had to dilate two or three times in some cases, but seldom more. I swabbed the uterus with Churchill's tincture iodine when there were symptoms of sepsis. At that time I thought hemorrhage was a dangerous factor; but later I thought less of it and left off tamponing and dilated with the finger, if possible, and removed the contents of the uterus with the fingers. If I could not do this and hemorrhage continued I used the tampon with gratifying results. Afterward I tried the more vigorous treatment with the curette and did not give nature a chance, and following this I had the worst cases of sepsis I ever had. It may have been due to the improper use of the curette and lack of thorough operation, but I returned to the tampon method, and when the abortion is progressing favorably I do not curette. When all else fails and septic symptoms appear and flowing is severe and frequent I curette with care, using the antiseptic precautions of a major operation. After the second to the sixth month I use the tampon if the hemorrhage is severe. If the placenta does not come away and it is adherent in its entirety, I watch the patient for hemorrhage till they do appear. In cases where the placenta is partly adherent and partly non-adherent hemorrhage is quite severe and sepsis more probable, the tampon method will remove it quite as well as the curette. In one case of abortion at four months the placenta was firmly adherent. I kept patient under close observation, and at the end of three weeks it came away with very little trouble. If hemorrhage continues dilate and curette with the precautions before mentioned, and drain by keeping the os open, but do not pack the uterus. I often apply Churchill's tincture of iodine and glycerne to the uter-

ine membrane. We are taught to examine the placenta after labor to determine if any of it is left in the uterus. I do not think we can always tell; even then small pieces may be left. I think we are all agreed that there is more danger curetting in these cases than after early abortion. If all the septic material is not removed absorption takes place very much more readily because the glandular protective zone is gone. If after labor septic symptoms occur I dilate, if necessary, and use antiseptic douches, and possibly iodine or ichthyal or a similar preparation. If symptoms continue I determine with the finger if any of the placenta is present and remove it with the finger or dull curette forceps. Use hot antiseptic douches supplemented with ichthyal and glycerine applications. If the sepsis still continue shall we curette? If we remove all the septic material we may have no further trouble, but if it is not thoroughly done it would be better not to interfere at all. I shall not consider the different classifications of chronic endo-metritis for after some study I am persuaded that it is a very indefinite disease, and it is not as prevalent as is supposed. Two varieties of endo-metritis will cover the essential symptoms of all:

First, *Interstitial;* second, *Glandular.*—In both the principal symptom is menorrhagia. In the interstitial we have a purulent and a muco-purulent discharge. In the glandular leucorrhea and hemorrhage. The catarrhal conditions observed in young unmarried women are due to vitiated blood, exposure, improper care at the menstrual period, uterine displacements, etc., and are not true endo-metritis. The married women we may treat locally as conditions indicate, repairing the perineum and cervix and correcting flexions. I do not think a curettement is indicated unless there are repeated severe hemorrhages or excessive flowing. I have had very little experience with endo-metritis due to the gonococci. I think even greater caution should be shown here because of the probable adhesions and disease of the tubes.

Some of the unpleasant consequences of curettement are: sepsis from incomplete operations, perforation, atresia, jeritonitis if the operation is too vigorous, and the immediate and remote dangers of the anæsthetic. In order to avoid the use of the currette, first, tampon; second, dilate and drain; third, use antiseptics intelligently; fourth, use proper local and systematic treatment. As a rule, curette only when hemorrhage is frequent and profuse, and then with the antiseptic precautions of a major operation.

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A DIFFICULT CRANIOTOMY.

BY L. C. KEERANS, M D., CHARLOTTE, N. C.

In reporting the following case it is not my intention to enter into a recital of the various steps in the technique of the operation of craniotomy, but to present it as briefly as possible, its several complications, and the adverse circumstances under which delivery was accomplished.

The patient was a multipara, who two years previously had been delivered, after considerable difficulty, of a premature child. At that time she had been warned that another pregnancy would be attended by a repetition of operative procedures more severe than the first, if not by fatal result, as her pelvic deformity was so marked as to render delivery by ordinary means, such as forceps, impracticable. That the injunction was not heeded is only too obvious.

Labor began early in the afternoon of November 21, 1905, and progressed until full dilatation of the os was completed. A vertex presentation was diagnosed, although the head had not become engaged. About 2 o'clock the next morning, after recognizing the obstacle to normal delivery, the attending physicians applied forceps. Their efforts were rewarded by the slipping of the blades, which were repeatedly re-adjusted and traction again made to meet with the same result, the descent of the head and the engagement not having been influenced in the least.

Having apparently exhausted their resources, as well as themselves, in their many unsuccessful attempts to terminate the labor, I was called in consultation.

When the call came I was out and did not reach the house until 10 o'clock. Upon vaginal examination I found the pelvis contracted antero-posteriorly, the conjugata vera measuring 7.4 c. m. (or about 3 inches); also, in addition to this, was an exaggerated sacral promontory on the right lateral

aspect of which was what seemed to be a slight projection, the exact nature of which I was unable to determine, probably an exostosis.

During the night fetal life had become extinct. I applied the Neale's axis traction forceps, but on making traction they promptly slipped off, the head not presenting the proper diameter for application and retention of the blades. Had I secured this, as I afterwards found, I could not have accomplished a delivery, so after a second unsuccessful trial I abandoned the procedure.

As ergot had been given previous to my arrival I found the uterus tetanic, and to have accomplished delivery by version would have been an utter impossibility; any attempt to turn the fetus under such conditions would have been accompanied by immediate danger of rupture of the uterus, the lower segment of which had become appreciably thinned. If version had have been successful the after-coming head would have required crushing or craniotomy, or both, which would have been somewhat difficult, and comparatively undesirable to craniotomy in a vertex presentation. Obviously the conditions under which the operation was undertaken and delivery effected i. e., pelvic contraction, progressing maternal exhaustion and a dead fetus, rendered craniotomy not only justifiable, but imperative.

In perforating I used the Smellie scissors, entering the joints just anterior to the posterior fontanelle. When securing sufficient opening I removed the brain and applied the ordinary forceps to compress the head, but the disproportion between it and the pelvis was so great that efforts at extraction by this method proved futile. As I did not have craniotomy forceps I used my fingers to break up both parietal and part of the occipital bone piece-meal, at the same time protecting the maternal parts from contact with fragments of bone. To prevent laceration of the vagina during descent I bent back the frontal bone over the sharp projecting edges of the base

of the skull. I then inserted a blunt hook under the mental symphysis, and with the assistance of supra-pubic pressure made traction, bringing the remains of the head just to the vaginal orifice, when another obstacle was encountered, and on examination I found that the shoulders had not entered the superior straight. I then made an effort to pull them down into the pelvis with a blunt hook under the shoulders, but without avail. The remains of the head were removed in the vaginal, and the shoulders pushed back from the pelvic brim, and then turned the fetus and thus effected delivery.

Just before delivery the patient showed signs of collapse, but after necessary stimulation rallied sufficiently to permit a continuance of the operation. The uterus was douched with 1.6000 solution bichloride of mercury. Ergotole 20 minms was given hypodermically.

The amount of hemorrhage, both ante and post-partum, was comparatively small. The patient emerged from the anæsthesia in fair condition, her cheeks maintaining their former rosy color. A few days later I was informed by her attending physician that she died twelve hours after the operation; however, not before all efforts to revive her had been exhausted. It is probable that while her death may have been partly due to shock, it was more directly the result of the prolonged anæsthesia, the patient having been more or less under chloroform for about four and one-half hours previous to my arrival, and then for three hours required for the operation.

In making a few comments regarding such cases it is not my purpose to refer to the different forms of contracted pelvis nor to the special indications for operations, but rather to urge the necessity of examination, previous to labor, of all pelves, especially primiparous. Where pelvic deformity is either suggested or apparent, as in Rachitis, Scoliosis, Lardosis, Kyphosis, etc., it is to be presumed that special attention would at once be directed.

No conscientious obstetrician fails to make a thorough urinary analysis in every case of pregnancy under his care, so

that in the event of the discovery of albumen or casts, or both, he may institute proper prophylactic measures to avert the occurrence of eclampsia. It is one of his first duties to the mother as well as to the unborn child, failure in the performance of which renders him guilty of culpable neglect.

While eclampsia is not so frequently associated with contracted pelvis, still his obligations demand careful observation and pelvic examination, and the obstetrician or general practitioner has not discharged his preliminary responsibilities until such have been accomplished. In the case of a multipara who has given birth to one full-term child, either normally or with forceps, such preliminary pelvimetry would be unnecessary. It is, however, to primipara generally, whether physical deformity be evident or not, that the above precaution applies.

The case just cited is one in point, in that external appearances indicated a normal pelvis. This is especially true in symmetrically or generally contracted pelvis. With reference to the time at which such examination should be made (I refer now especially to those cases where there is no indication of deformity), it would be well to note that the uterus ascends in the abdominal cavity until about the 38th week (the second week before the completion of the pregnancy), at which time it begins to descend and sink into the pelvis, thus undergoing what is commonly termed "lightening."

Simultaneously with this process the fetal head, in vertex presentation, assumes certain relations to the pelvis; thus in case of a multipara, by reason of the relaxed abdominal wall, the fetal axis is not coincident with, but forms an angle with the axis of the superior straight, which position is maintained until labor occurs, hence there is no engagement until that time: however, on the other hand, in the primipara, when the uterus descends, the abdominal walls being very tense, operate to place the fetal axis in coincidence with the axis of the superior straight, thus, under normal conditions, caus-

ing the head to enter and gradually become engaged in the pelvis.

If such engagement fails to take place in the primiparous it might be attributable to such cases as (1) abnormality of the fetus, e. g., monstrosity, hydrocephalus; (2) hydramnion; (3) contracted pelvis, etc. Vaginal examination in a multipara is not necessarily called for, but in primipara, when this is omitted, should you on palpation at the time just indicated find non-engagement of the head, or again, when digital examination of the vagina, uterus, etc., in the early months has enabled you to detect pelvic contraction, it becomes imperative to adopt such measures as will enable you to estimate the dimensions externally, the conjugata diameters, the importance of exostosis, etc., as constituting further obstacles to delivery.

Thus only can intelligent treatment be instituted to meet the conditions of any particular case. Again, if on palpation you should diagnose a presentation of the breech, lateral plane, etc., the same precautions should be observed.

Regarding operative interference, it must vary according to the nature of contraction, briefly in a pelvis flattened antero-posteriorly with a true conjugate of 8.1 to 9 c. m. (3 1-4 to 3 1-2 inches) and a fetal head of ordinary dimensions, delivery can be accomplished by forceps or probably by version; or again, where the true conjugate measures 6.5 to 7.5 c. m. (2.5 to 3 inches) it is a pelvis through which the average head will not pass, and, therefore, should the child be living symphysiotomy is indicated; or, in the event of its death, craniotomy.

In those forms of contracted pelvis where the true conjugate is less than 6.5 c. m. (2 1-2 inches), either with or without osseous encroachment, or again, where the true conjugate is sufficient for passage of the head under the symphysis and yet complicated by an exostosis, or further, when the pelvis is so distorted as to render symphysiotomy ineligible, Cesarian section is demanded.

I have purposely omitted mention of the induction of premature labor in the treatment of these cases, as it is to a great extent being superseded by symphysiotomy. As to the advantages of either operation, without going into a comparative analysis, I would refer you to the statistics, which show as the results of the induction of premature labor, a fetal mortality of a little more than 60 per cent, which of course includes those deaths occurring during delivery and those occurring afterward, due to prematurity. On the other hand, symphysiotomy holds out a much greater chance to the child, as under the operation the fetal mortality is very small, ranging from 5 to 10 per cent, which estimate is based on the results of operations performed both in this country and Europe. Regarding maternal mortality, the results are about equal, the percentage being comparatively small under either. Hence, as the operation is done largely, if not entirely, in the interest of the child, symphysiotomy will undoubtedly take precedence over the induction of premature labor. In conclusion, while craniotomy on the dead fetus is repulsive, it is not only more so on the living, and but rarely ever justifiable, even though the case is seen in an emergency and for the first time, unless the conditions are such that the mother's life depends on the sacrifice of the fetus.

Therefore, on the whole, if pelvic examination be made at the proper time, we can, by the exercise of such means as are at our command, avert many unhappy consequences and secure a successful termination in the salvation of both the mother and child, a thing which is plainly our duty.

THE COLONY TREATMENT OF THE INSANE AND OTHER DEFECTIVES.

BY P. L. MURPHY, M.D., MORGANTON, N. C.

The subject of this paper might be called, employment as a means of treating and caring for the insane and other defectives, the colony being the means of finding agreeable and profitable work for the inmates.

To many of you a description of what is meant by the "colony treatment" is needed to fully understand the subject.

As the expression is used in this paper, and as it is generally understood, it means the erection of buildings some distance from the central hospital plant and placing farm working patients there, to be under the control and management of the hospital officers.

Without discussing the origin of the idea, and with no reference to Gheel, it is sufficient to say it was begun in Germany in the sixties, and that it has slowly found its way into other countries.

Such a colony was established in connection with the Morganton Hospital three years ago, or rather it was ready for occupancy about that time. It took several years of talk to get the idea adopted and as many more to get the colony built. The plan of conducting it by the hospital authorities was largely experimental, and was made to suit the people of Western North Carolina, but it is, after all, a modification of the original German conception.

The first building was for 30 men, with rooms for a man and his family, the man to have general supervision of the place and the wife to cook and do the general household work. Afterwards a small cottage was built for the manager and his family and his rooms were used for patients,

FIRST BUILDING AT THE COLONY.

THE COLONY BUILDING.

and later still another building was erected so that now 75 patients can be accommodated. It would have been much better to have limited the number to 30 as first intended. No single colony plant for the insane should much exceed that number. As many colonies as are needed may be had if land is sufficient, the number depending on the size of the hospitals, as only a certain proportion of patients, about 25 per cent., can be thus cared for, or at the outside 40 per cent.

The colony buildings, outhouses and surroundings at the Morganton colony were made as near as possible like the farm houses in this section of the State. This was done to give it a home-like appearance, and the management has been to make each one of the patients feel at home; they are free to sit on the porches and the lawn in the summer, in the sitting-room before open fires in the winter. They smoke, have games, read or do what pleases them during these hours of recreation. They have their own garden, orchard, vineyard, berry patches, poultry, pigs and cows, which they attend to. Every effort is to make each one feel that these things are his own; he can gather berries, pull the fruit when he wants it, or as he pleases. Every one is expected to do something, if no more than pick up chips for the cook.

The first party of patients sent to the colony, about 15, were quiet, industrious men who were expected to be the nucleus of the organization. After these became accustomed to their new surroundings, others who were quiet and who had some remnant of mind left, but who did little or no work, were tried. These readily dropped into the ways of those who had preceded them, and who had set the pace. Further experiment was made by sending those who seemed incurably demented, incapable by reason of their weakened minds, of doing any kind of work. Most of the last mentioned had been residents of the hospital for years and years, in whom the last vestige of hope for any improvement had

PATIENTS WORKING RASPBERRIES.

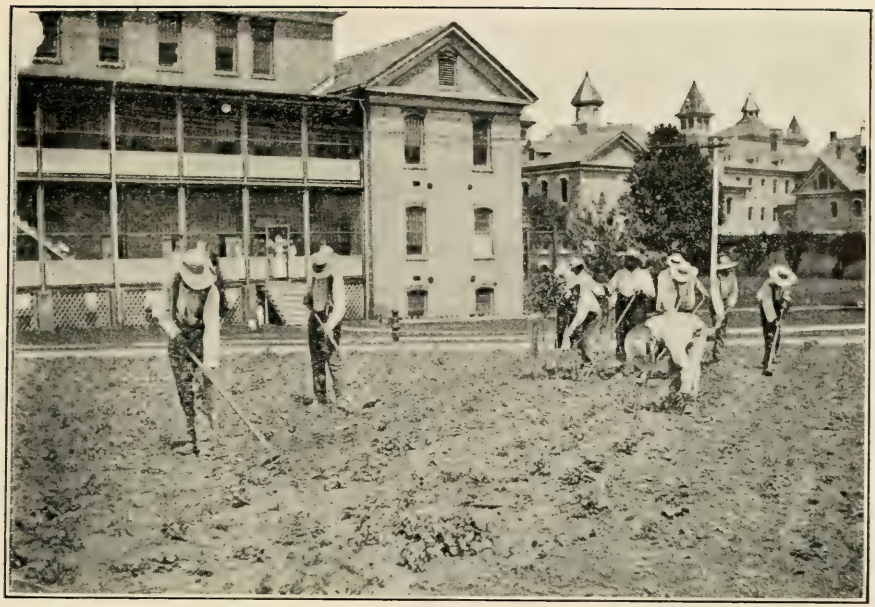
GENERAL VIEW OF COLONY.

long vanished. Strange as it may seem to you, as it did to us, acquainted with these men and their disease, they immediately went to work and are today profitably employed. They have gained in health and self-confidence; they are happier because they feel there is yet something in life for them.

It may occur to some to ask why these men had not been sent out to work before and given an opportunity. It has been the invariable custom since the hospital opened to try to induce every one to engage in some kind of employment, and it had been tried repeatedly with these very men with complete failure. To conjecture why they were willing to work in one place and not in another might be profitless, it is sufficient to know it is true.

After the work was well under way, it was strange to see the development of the different fancies of the different men. Each one was allowed, as far as possible, to follow his own inclination and to select his own work. One fancied painting and white-washing and building fires under the heating apparatus. He studied economy in the use of fuel as much as the average head of a family, and is intelligent in his work as could be expected of any ordinary man. Another patient has become greatly interested in poultry, and shows more than ordinary intelligence in following his bent. He reads journals on poultry, and not only builds coops, box nests, etc., but has actually invented several useful contrivances. Another hauls wood to the kitchen in a little wagon he made himself, and so on almost indefinitely.

A brief report of two cases will partly illustrate what has been done. The following is quoted from a report to the Board last December and is the case of a boy "who at 13 years of age came to the hospital in June, 1895. He had a form of insanity (dementia praecox), which rarely improves; indeed, its course is generally to deteriorate. This boy was no exception to the rule, and he grew worse and



SNAP-SHOT—COLONY PATIENTS CULTIVATING STRAWBERRIES.

RESTING AFTER THE DAY'S WORK.

worse until hope for any improvement had been given up. Three months ago he was sent to the colony, but it was considered a desperate chance. To the astonishment of every one he immediately began to improve, and this has steadily gone on until to-day he is a strong, vigorous young fellow of 23, full of hope and energy, whereas when he went there he was dull, indifferent and listless; he never inquired of his home or home people, and seemed to care for nothing. Recently he has written home telling of his marvelous improvement and of joy in life. He testified as 'one risen from the dead,' after ten years of mental darkness. It is not certain that the improvement will continue; in fact, it is not expected, but even if he improves no more, great good has been accomplished in relieving this young fellow of such suffering as we shudder to think of." Six months after this report was written, this young man has gained but little, and it is probable he is as well as he will ever be. He enjoys life as much as the average man, taking part and interest in baseball and other amusements we are able to furnish our people.

The second case is of a man who was committed to the hospital in November, 1899, this being his second admission. He complained of great discomfort in his head, which he described as being unbearable, so much so that he begged to be killed. His appetite was poor, he was anaemic and greatly run down in health, and evidently was a great sufferer. Every effort to relieve him failed. We were sure if he could be induced to exercise he would improve, but nothing we could do would cause him to take the slightest interest in anything. He was finally forced to go out with the working party, but he would lie on the ground complaining of his head. He was a few months ago sent to the colony with nine other men almost as bad as he. To the amazement of us all, the man went to work, his health improved, the pain and discomfort disappeared, and his face is ruddy and

PATIENT TENDING BRONZE TURKEYS.

PATIENTS INTERESTED IN GRAPE GROWING.

he gives every evidence of health and vigor. He works cheerfully, seems perfectly satisfied, never complaining of any bad feeling, and is as comfortable as he can be. These two cases are only two of many as unpromising who have been greatly relieved and some few cured by the "colony treatment."

All this seems so simple, and is so obviously the right course that we wonder why it had not long ago been tried.

Two ideas are prominent in this system, the first to find agreeable, healthful employment for the patients and to give them a home.

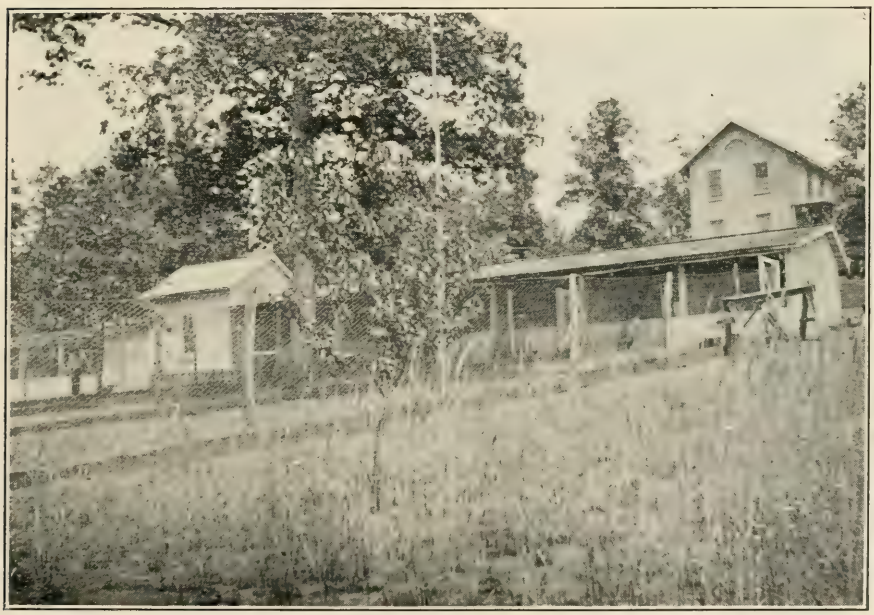
This working class, while too defective to take up the burden of life, are yet appreciative of their surroundings and of most things that make life happy to the people in the outside world. They require the minimum amount of care and discipline, and with this given, they conduct themselves as well, indeed, better, than the same number of sane men. Some under this treatment recover that otherwise would not, but the majority must remain, this being their refuge and their home. How much need, therefore, that every effort should be put forth to make it pleasant to these afflicted men.

In general hospitals and institutions for children in reformatories we have a different class to deal with. A large number under one roof is not so objectionable, but these cases of chronic insanity are not children in whom the desire for a home is small, nor are they malefactors in prison for punishment.

You will pardon a little digression, which after all leads to this subject from another and a practical standpoint.

In North Carolina there are not less than 4,000 white insane. Of this number 1,500 are in the two hospitals, leaving 2,500 uncared for by the State. To properly house all these people means the expenditure of a million dollars, and the annual cost of maintaining them will be $500,000. It is well then to consider carefully how this burden on the

BARNYARD AND POULTRY HOUSES AT COLONY.



CHICKEN RUNS.

tax-payers may be lightened. Without discussing the question of the increase of insanity, there can be no doubt that there is an increased demand to have these persons cared for, and properly so. All insane persons are dangerous in some degree to their neighbors; more so to themselves. Insanity is the cause of many suicides, while sexual crimes, arson, assaults, impostures are often committed by those mentally deranged.

Too often families are ruined by some insane member, the bread-winner having to devote his whole time to the control of wife or child, or a crime is committed and every energy and the savings of a life time must be devoted to the cost of courts. Whole communities are frequently terrorized by an insane person, and the lives of the women and children made miserable.

Only a few recover at once or die; they live on for years, not only imbecile and helpless themselves, but a burden on the family and community, a severe drain which must tend to weaken the general welfare of the State.

These are sufficient reasons for you as physicians, men of standing in your respective communities, not only to make yourselves familiar with this disease in order that you may prescribe intelligently for those suffering from it, but to use your influence, which is great, to see that proper provision is made for them by the public.

Much insanity is caused by alcohol and drugs. This touches you more closely, for you are largely responsible for these habits. You may do something by preventing unwise marriages of those whose heredity is not good.

It should be your special province to recognize dangerous symptoms in time and by prompt action prevent suicides and accidents and to send to the hospitals at once these patients who have infinitely more chances to recover when placed under the care of competent alienists.

The conclusions we reach are that 2,500 white insane peo-

TWO COLONY BUILDINGS.

PEACH ORCHARD AND GARDEN, SEEN FROM A COLONY PORCH.

ple in North Carolina are uncared for; that a great outlay of money will be required to build for this number, and after that the never ending expense of maintaining them begins. If it can be demonstrated that the colony system is the best and the cheapest, it should by all means be adopted.

There is an end to the willingness and even ability of the tax payers to provide for the defectives in expensive hospitals and asylums, and it is clearly the duty of those who have these matters in hand to use proper economy. What is done by the Legislature will depend on the demand of the people and the wisdom of the legislators. It will require great deliberation and the wisest action to solve this question.

In North Carolina no more hospitals ought to be built at present, those now in existence to be enlarged if possible.

Unfortunately, at Morganton, no more land can be purchased, and that institution can not with advantage be greatly increased in size. The last opportunity to buy land there has been allowed to pass. This is to be deplored, for the plan there has been so successful and it is so well understood that much was hoped for in the judicious extension of these colonies.

Much more might be said on the general subject of caring for the insane, but time forbids. Perhaps at some future time this will be taken up and discussed.

Hospitals for the insane can not properly care for epileptics or idiots. I use the term idiot in the sense in which it is defined by the North Carolina statutes: "A person born deficient or who became deficient before the completion of the twelfth year of age."

Many of these defectives are capable of doing common labor, and can be made very nearly self sustaining if properly managed in such a colony for the insane as has been described. In many of the states where this is tried, it has been successful. In North Carolina, where we have such

PATIENTS PLAYING BASEBALL.

MAKING FIRST BASE.

good climate and where land can be purchased cheaply, more can be done than in other less fortunate communities. I believe in the cotton and truck section of the State such a colony could be nearly self sustaining. But leaving that out of the question, there can be no doubt it is best for these people to live out door lives with proper employment. I would like also to enlarge on this feature of my paper, but time will not permit.

I trust, gentlemen, that you will become enough interested in these subjects to give them your hearty support. If you do, then the labors of those of us who are immediately responsible will be greatly lightened and these afflicted fellow citizens will be happier and your State will be a better State.

Since this paper was written my attention was drawn to a statement in a medical journal of the number of insane sent to the hospitals in Massachusetts during the year 1904. It bears so closely on what has been said I repeat it and compare it with our State and hospitals. During that year 2,426 insane persons were admitted into the hospitals of Massachusetts, none of whom had ever before been inmates of any hospital for insane; adding to these the number of re-admissions, which could not have been less than 600, we see 3,000 persons sent yearly to the hospitals of that state. Between 7,000 and 8,000 patients are cared for by the public hospitals.

As compared with North Carolina, the population of Massachusetts is twice that of the white people of our State. We should have 1,500 white patients sent to our hospitals every year, and we ought to have accommodation for 4,000. As it is less than 400 are admitted, and only 1,500 can be cared for in our hospitals. There is some difference I believe in the proportion of insane to the population in the two states, but not that much. Massachusetts gives her insane citizens proper care—North Carolina does not.

AN IMPERFORATE AND OBSTRUCTIVE HYMEN, AT FULL TERM.

BY H. S. LOTT, M D., WINSTON-SALEM, N. C.

This case was seen at the request of my friend, Dr. A. Y. Linville, of Waughtown. The patient was about twenty-four years of age, and reported that her menstrual periods, prior to conception, had been regular and without unusual symptoms. Her pregnancy was now at about full term, this being the first one occurring in three years of married life.

Labor pains had set in during the previous night, and at the time of my visit, about ten o'clock in the morning, were recurring at regular intervals. The phenomena characteristic of the onset of labor were well marked; the recurrent pains, of an expulsive character, and some nausea, indicating dilatation of the os. The point of most interest in watching the woman have her pains was that they seemed to be futile in their efforts.

Upon making an examination, the fingers could only be introduced into the vagina to about one-half their length. Here they were met by an obstructive wall, the cushioned feel of which indicated it to be of considerable thickness. Rotating the fingers over the entire surface of this wall of membrane, and around the walls of the vagina in every direction, no cleft of possible inlet could be found; in fact, none existed. The sensation was a most discouraging one, as the symptoms warranted the finding of a dilating os. Biding my time, even at the risk of incurring the displeasure of the patient, who failed to realize her interesting condition, the fingers, having become somewhat accustomed to their surroundings, made a second and very deliberate exploration of this blind pouch, with its obstructive wall, and after feeling almost discouraged again, it seemed to me that through its substance, and at an equal distance from

the top, the bottom, and the sides, could be felt a circle, about like that of a small sized teething ring. While this sensation was cushioned and obscure, it was almost unmistakable, and, when upon firm pressure at the most central point a hard, round body could be distinguished, the case assumed to me a much more promising aspect.

Believing it to have been originally either a cribriform hymen, or one with a very small cleft below, at the posterior wall of the vagina, and that this opening had been closed by some vaginal inflammation subsequent to conception, I advised that it be incised, thus converting the vagina into a normal one, and permitting labor to take its course.

Therefore, with the patient under chloroform, the hymen, which was found to be about the thickness of the little finger, was divided from side to side of the vagina, the incision being made in this direction in order to avoid important structures, urethra in front, and bowel wall behind; and also to invite any unavoidable tear which might occur in the process of delivery, in this lateral direction, rather than *into* these structures. As soon as the incision was made, the child's head could be plainly felt, coming down, and the encircling fibres of the os beginning to yield, which indicated very plainly that the constriction caused by the hymen about the cervix had been obstructive to labor as well.

By blunt stretching with the fingers, the incision was enlarged, and the hymen obliterated as nearly as was consistent with the safety of the surrounding structures. No further interference was necessary, as from this time labor progressed normally and promptly, and in about four hours I received a message that delivery had been accomplished. The doctor reported that there was some injury to the perinaeum and posterior wall, but as it was not extreme in degree, and because of the cicatricial character of the tissues involved, I advised against its repair, rather deeming the enlargement of the outlet from this one favorable to the accomplishment of future confinements.

A PLEA FOR MORE FREQUENT AUTOPSIES IN PRIVATE PRACTICE.

BY J. P. MUNROE, M.D., DAVIDSON, N. C.

Not long since a medical friend of mine, who does quite a good deal of surgery, closed an account of a very interesting case by saying: "But we sewed him up and had to let him die without knowing the cause of his death." I asked, "Did you find out the cause afterwards?" His reply was, "No, an autopsy was not held."

The frequent occurrence of cases of this kind was doubtless what our Secretary had in mind when he asked me to present a paper on the subject I have announced. I was more than glad to do so, because within the last few years I have been more impressed than ever before with the value to all parties concerned of more frequent autopsies than are now held.

Pathology has assumed an importance never before held in the schedules of medical education. Some one has said that it is not unfair to other departments of the medical school to say that the work of the pathological department is the most important work in any one department of the medical course. As conducted in the larger institutions pathology is taken up in second year of the course, and continued in one form or another throughout the remainder of the curriculum covering the last three years. In these institutions, and in the hospitals connected therewith, it is the rule with, of course, occasional exceptions, to require a post mortem in case of every death. These post mortems furnish the material for study. The points of fundamental importance at the post mortem are: First, to confirm or disaffirm the diagnosis made before death. Second, to gain information that will make the diagnosis of similar cases easier and more definite in the future.

Third, to increase our knowledge of the diseased condition of the body.

With these ends in view, and bearing in mind the history of the case with the symptoms that were presented, a careful examination of the body is made, and all the important organs examined with reference to gross lesions that may be apparent to the naked eye; and in addition to this, the pathologist separates and preserves portions of diseased tissue for future examination under the microscope.

To demonstrate pathology successfully, one should be able not only to show the morbid changes in the tissues, but also to trace the connection between these changes and the symptoms or morbid physiology as presented during life. The higher aim of post mortems and the studies in pathology based thereon is to place the physician in that position where when certain symptoms are presented to his eye, to his touch and to his ear, he can so interpret them as to see with the mind's eye the morbid changes that have taken place in the diseased tissues and organs.

It will be universally admitted that all this is of fundamental importance in a well conducted medical school, but the point that I wish to make is that in private practice we deprive ourselves of much that is helpful in not pursuing studies along the same line. It may not often be the case that we will be called upon to do a post mortem for the purposes mentioned as number one, but the points two and three will more frequently give us cause for making the post mortem, and I wish especially to call attention to number two in private practice: "To gain information that will make the diagnosis of similar cases easier and more certain in the future."

There are many obscure cases that present symptoms that we can not thoroughly explain; we see nothing to cause death, but in spite of our best efforts the patient gradually declines and dies; or it may be that a person dies suddenly, and the physician is called in afterwards and always expected to give an opinion as to the cause of death.

There is a natural prejudice on the part of every one

against having the beloved dead disfigured, or subjected to the surgeon's knife in any way. In deference to this feeling and with profound sympathy for the sorrowing ones, the physician is reluctant to ask for a privilege which would seem to have the cold aspect of scientific investigation, and yet I am convinced that the friends, after proper explanation, would in a large number of cases gladly agree to a post mortem. I have been agreeably surprised at the number of cases where this privilege has been accorded to me in private practice. It is seldom the case that an autopsy of this kind can be made as complete as is done in institutional work, and the physician should modify the operation in every particular to meet the demands of the situation and the wishes of the friends. As illustrating a method that may be pursued, I will state briefly the details of a post mortem held in a country home during the past year.

The patient was a man of forty-six years of age, who about nine months previously had been operated on by an intelligent surgeon for the removal of a growth on the left arm. Unfortunately a microscopic inspection was not made of this growth, but the gross specimen was pronounced by the surgeon a sarcoma. Without going into the details of the clinical history, I was called in consultation with a view to operating for a supposed sarcoma under the right arm; this was about six weeks before his death. I found in addition to a very large tumor in the right side, immediately below the axilla, a small, soft growth in front of the sternum, another growth on the left arm, the size of a goose egg, and also a very decided enlargement in the right inguinal region. The urinary examination showed slight albumen and a few tube casts. The heart and circulation presented nothing abnormal. The lungs presented no dullness on percussion, or rales, and there was no cough. There was a slight roughness about the respiratory murmur, but to which I am frank to confess I did not attach much importance. Under the circumstances, however, I considered an operation out of the

question, and so advised. I also confessed my inability to make a satisfactory diagnosis.

After the patient's death the attending physician, who was a very progressive young man, suggested that we ask the family to allow a post mortem. We went direct to the sorrowing widow. At first she hesitated, but presently agreed, saying that we must not take any part of him away. I told her we would, of course, observe her wishes, but requested that she would modify this condition by allowing us to take a small particle from each organ examined, and we would promise that everything else should be replaced, and the smallest disfigurement possible made. She agreed to it, and she, of course, agreed for the several doctors present to witness the work, and also permitted a number of male friends of the deceased to remain in the room.

I can truly say that I have never had a more interested group to hear me lecture than were those farmers who gathered around the death table on that afternoon. I explained to them candidly the occasion for what we were doing. It was a case that the physicians did not thoroughly understand. We treated symptoms as they arose, and relieved conditions as far as possible, but we were baffled all along the line, and did not even know the nature of our enemy. We had asked, therefore, for the privilege of making this examination in order that we might find out whatever could be revealed by the examination of the internal organs. This could be of no benefit or harm to the dead; it probably would be of no direct benefit to his living family, but for the information of the doctors in what had been to them an interesting as well as obscure case, this post mortem had been requested and granted. It might be of benefit to them in treating similar cases, should they arise in future, and at any rate it would give them a broader knowledge of the changes that may be found in the body and the connection between them and the symptoms as presented during life.

I expressed our appreciation of the privilege granted us, and demonstrated, as I proceeded with the work, the various organs, pointing out the deviations from the normal where found. As already said, the farmers were as interested as the doctors in the examination, and they were especially pleased as I held up the appendix and showed them the little organ that they had already heard so much about as the seat of trouble in appendicitis. As I showed them the lungs, and pointed out numerous small tubercles scattered here and there, they appreciated the significance of the term, "The first stage of pulmonary tuberculosis." When I exposed the tumor in the side, and found an immense mass squeezed between the ribs and protruding beyond, so as to press the lung out of all shape, none of us could doubt the explanation of the pain that this growth had been causing. The large growth in the inguinal region, the enlarged mesenteric glands and the comparatively normal condition of most of the other organs were examined with interest. When the kidneys were taken up, however, they were seen to be swollen and irregular. Several incisions revealed numerous small abscesses, at the sight of which even the laymen present wondered how he could live a day with such organs. Here was sufficient and certain cause of death, even though we could have arrested the disease in the lungs and removed all the growths that had at first given so much concern. Every one present seemed to be satisfied with the explanation given for taking a part of the morbid growths and diseased organs for examination under the misroscope, and also sections from the organs that did not show disease to the naked eye to ascertain if any changes could be revealed in them by the microscope.

A similar method of procedure, modified to meet different circumstances, would be of immense advantage to the practitioner. The public would gradually become accustomed to it and the people will respect the physicians who approach the matter in the proper spirit.

SPECIAL DISEASES OF WOMEN.

BY B. S. MOORE, M D , CHARLOTTE, N. C.

It is a well known fact that in animal life the higher the animal organization the less prolific are the generative organs, and among men the higher the state of civilization the smaller the number of children born.

It is also true that in the same community the better classes and more highly developed, intellectually, have fewer children than the poorer classes who use their muscles rather than their brains to earn a living. In other words, the higher the scale of development intellectually, the more suppressed are the generative organs.

It is a well known fact that among the poor, where relatively more children are born, a larger number die under the age of five years; for the poor can not give them the care and attention that is devoted to the children of the rich and more intellectual—that is, the children of the rich and more intelligent, who are sickly and feeble, are more apt to reach puberty than the children of the poor, for among the poor the law of the "survival of the fittest" is not so much interfered with as it is among the rich and more intelligent.

We should therefore find, relatively speaking, more cases of uterine disease among the children of the rich than the poor and more women with uterine disease among the rich or people most developed intellectually.

It has been claimed by some that we have more uterine disease here in the United States than they have in Europe. If the people in the United States are more developed mentally and further advanced in our modern civilization, then we would be certain to have more uterine disease.

Aside though from these more general influences of race development, and the natural tendency of modern mental and civilized influence to suppress the generative organs,

there is a very much worse influence at work in causing uterine disease, and that is the general tendency to restrict the physical development of our females by limiting their out-of-door exercise during the years of adolescence, and the marked modern tendency to force mental development during these years when they are changing to women.

There is very little doubt but that in the United States this practice is more marked than in Europe, and no doubt that it is practiced here in the South more than anywhere else and, in my opinion, is one of, if not the most vital, cause of many of the troubles which we term Diseases of Women.

The generative organs are not essential to the life of the individual; they are the last organs to develop and they lie practically dormant from early childhood until the girl reaches the age of adolescence (from about 10 to 16). Then during this time they develop and make a large demand upon the entire system.

It is a well known fact that our domestic animals will not stand any continuous strain at even ordinary work during development or before development without serious injury to the form, strength and usefulness, and the same applies to the human body.

To be sure of full development a girl must have a surplus of vitality during the period of development and that if this vitality is closely used up by, especially, mental or emotional work or strain, the generative organs will fail to develop sufficiently to perform their functions normally. If a girl is pushed at school, or her energy used up by constant contact with older and more intellectual people from the age of ten to sixteen, she is almost certain to have a leucorrheal discharge, irregular and painful menstruation, and when examined locally an infantile antiflexed uterus will be found, with such a diseased condition of the glands and follicles about the cervix as to cause a semi-raw state, which we call a granular erosion and the older physicians treated as ulceration.

Bad hygienic surroundings, a serious illness, or more especially anything that brings about an anemic condition during the period of development, is pretty sure to result in an imperfectly developed uterus, dysmenorrhoea, sterility, etc.

A young woman may appear to be in good health and seem to be well developed, and yet she may have an imperfectly developed uterus; as a rule leucorrhoea is one of the first symptoms, and usually dysmenorrhea soon develops; not infrequently a patient comes complaining only of a dragging feeling about the pelvis or a pain in the left side, usually with marked constipation, and often with fissure-in-ano or hemorrhoids, and on examination a well marked case of granular erosion will be found, the usual dysmenorrhea being absent.

Sometimes the only indications of imperfect development and disease of the glands of the cervix is a pain in the left side and an uncontrollable nervousness, with more or less depression and hysteria as the woman grows older. If the case is not soon treated the menstruations become irregular and later profuse, the latter symptoms being due to the constant irritation resulting in congestion and abnormal vascularity and finally to the development of what we call fungus granulations in the endometrium above the os internum. Typical cases of imperfect development are to be found, especially in the graduates of our female colleges, for to graduate from such schools requires lots of hard work and the work is usually done during the years of adolescence. I feel that the best rule that our female colleges could make would be that every applicant must be fully developed physically.

The abnormal conditions caused by imperfect development does not stop at just causing leucorrhoea and dysmenorrhoea; often, however, further trouble is stopped by early marriage, which is a great stimulant to the generative organs.

The abnormal changes gradually induced by uterine catarrheal endometritis will very often result in sterility. Sup-

pose pregnancy does occur in an imperfectly developed uterus where the os uteri is not only imperfectly developed, but rendered hard and incapable of dilating sufficiently to allow the head of the child to pass without lacerating the cervix? The tissues being filled with more or less diseased glands and follicles, fails on this account to heal and the result is that the existing disease is aggravated, involution is delayed, the uterus remains soft, the ligaments relaxed and this produces the many so-called cases of misplacement, etc. Besides the existing catarrheal disease and favorable condition of the uterus, this makes sepsis more likely to follow labor and abortions.

Excluding new growths, acute sepsis, unclean examinations and applications after labor and abortions, this condition of imperfect development is the real cause of most of the local conditions from which women suffer.

The condition of imperfect development may affect the ovaries and cause imperfect and abnormal ovilation and result in sterility or reflex nervous disturbances. Then this weakened condition of the glands and underlying tissues may produce conditions favorable to the growth of fibromata, cancer, etc. If then these views are correct, much can be done; not only toward the cure, but the prevention of the diseases of women.

The great importance of keeping children in good health is very well understood and much has been written on the subject of rest in bed during menstruation, etc. In fact, too much stress has been put on physical rest, but the very important fact has been overlooked that during the period of development, between the age of ten and sixteen, a girl must not only have good health and strength, but this health and strength must not be used up in mental or social development. If it is, the generative organs are almost certain to suffer and fail to develop.

Rest during menstruation may relieve the pain, but if it shuts the girl up and deprives her of out-of-door exercise it does more harm than good, often being a cause in bringing about abnormal conditions and harmful habits, which would not have happened had she been playing out of doors.

The very common idea that all of women's troubles come from misplacements, falls, etc., should be replaced by a broader view. First, keep the general health good, the bowels regular during the period of active development, let healthful out-of-door play and pleasing mental occupation take the place of an indoor life, forced cramming and stimulating contact with old people. Recognizing the fact that a girl has brains to be developed and that they can be best developed after her generative organs have been developed; that to develop their brains and have them so-called accomplished at the expense of their generative organs is to give them the worst possible preparation for a happy and useful life and future.

The importance of recognizing the influence of imperfect development on the treatment of the diseases of women is very great. For example, we treat a case of dysmenorrhea and sterility as being caused by antiflexion; when we straighten the uterus our work is done. But suppose we look upon the small uterus with its semi-raw os and contracted canal as being due to imperfect development, our aim would be to cure the local disease of the glands and follicles, and then stimulate the uterus to development, and we would recognize, unless we succeed in keeping the patient's general health good, and in other ways stimulating healthy development, it would only be a matter of a short time before the abnormal conditions would return.

When pregnacy takes place, examine the patient sometime before labor is expected and bring on a premature labor to prevent extreme lacerations. Do not wait for subinvolution and retroversion to become chronic before giving treatment,

but ten days after labor begin and give stimulating applications, not merely to sustain the uterus up in the pelvis out of the current of the rectum, and prevent this being pushed down into the vagina by each movement of the bowels, but to stimulate an active circulation and contraction and involution, not only of the uterus, but of the vagina, ligaments and all of the blood vessels which have been dilated and stretched during pregnancy and labor. Beginning ten days after labor and making an application in the vagina twice a week of a firm cotton pledget rolled to the size of about one to one and a half inches by two to two and a half inches long, well saturated in 10 per cent. solution of boroglycerid in glycerine.

In this way we can prevent subinvolutions, misplacements, etc. One end of the cotton pledget should be placed in the cul-de-sac, the other being pressed up by the perinium under the pubic bones. This will fill the vagina in such a way that the uterus can not be misplaced downward and forward. Leave this for from twenty-four to forty-eight hours; then remove and wash out the vagina with a solution of hot water and borax; then every third or fourth day repeat the application until involution is complete.

This rarely fails to relieve all symptoms and enables the patient to be up and about after the second week, and to go out riding the third week with benefit to the patient in every respect. If this simple process were carried out after all labors—not that I claim that it is always necessary, but in most cases among civilized people—it with rare exceptions prevents further local trouble.

Besides making the uterus an early prey to catarrhal disease, resulting in dysmenorrhea, reflex mental disturbances, and often subinvolution or sterility, displacements, etc., imperfect development may cause serious trouble at menopause.

If a woman has severe hot flushes at menopause and reflex mental disturbances, the endomentrium will be found to

be extremely painful to the slightest touch. If in such a case you dilate freely, curet and apply pure carbolic acid and drain, you will find that the symptoms will soon disappear.

There is a marked similarity between the contracted and atrophied uterus of an old woman, and the small, hardened and contracted uterus of the young women suffering with dysmenorrhea and hysteria.

The influence of chronic uterine catarrh, frequently caused by imperfect development, may result in a hypresthetic condition of the endometrium, preventing normal atrophic changes and causing serious reflex nervous disturbances at the time of menopause.

THE END RESULTS OF ABLATION OF CERTAIN ORGANS AND STRUCTURES OF THE HUMAN BODY—A CRITICAL REVIEW OF 1,250 OPERATIONS.

BY J. ERNEST STOKES, M.D., SALISBURY, N. C.

When the Creator spake and man sprang into existence, there stood forth in creation a mystery—marvellous, wonderful, sublime in its complex and interwoven structures of body, mind, and spirit! A mystery that only a God could have created! A mystery so great that thousands of years afterwards we hear the Psalmist cry fearfully and wonderfully are we made!

Glorious indeed must have been this human body, as it came forth fresh from the hand of the Creator, with all its various tissues, structures, organs and systems in perfect condition and relationship. The instrument of a thousand strings, with each string attuned to vibrate in perfect harmony with its fellow! But man sinned and the curse fell, and with the curse came the blight. The thousand strings no longer vibrated in perfect harmony and accord. The delicate, wonderful, interwoven structures of organs and systems became the seat of disease, and each organ not only suffered injury or death itself, but imparted them to other and distant organs, sometimes threatening the death of the whole. Then again, in the history of the human race, was heard that same voice that had called man into existence, saying: "If thy right hand offend thee, cut it off and cast it from thee; if thy right eye offend thee, pluck it out and cast it from thee!" Hence just as invention follows necessity, so has surgery come into existence to meet the diseased conditions of the structures and organs of the body, and it is brought before us clearly, in all its manifold responsibilities, demanding and exacting provision, acumen and sagacity of decision, with a quickness of execution on the part of all

who attempt successfully its practice. With these demands ever present, the question readily comes before us, how can we be best prepared to meet and overcome them; overcome them in so direct a manner that the amount of work accomplished and the final result obtained will demonstrate that even apart from the medical centers, surgical attainments of the very highest order can and do exist.

To accomplish this, however, will require more than a strong head and a ready hand; adequate and appropriate training should be the stepping-stone. On this point a prominent surgeon has to say: "Only those should practice surgery who by education in the laboratory, in the dissecting room, by the bedside and at the operating table are qualified, first to make reasonably correct deductions from subjective and objective signs; secondly, to give sound advice for or against operation; thirdly, to perform operations skilfully and quickly, and fourthly, to conduct wisely the after treatment." Notwithstanding such self-evident facts and in direct opposition to such necessary and indisputable requirements, too often do we see solely the conscience of man and the enlightenment of a community decide who is qualified in surgery and even to what lengths he is justified in proceeding in the practice, irrespective of training or attainment.

It is easy to understand that the layman may not understand or realize to how great extent the gravity of surgical interference may vary, or fails to place the proper valuation on skill attained only by long training and broad experience. He is simply governed in his choice of a surgical adviser through association or preference, even mere personal acquaintance. Many times does one hear of the patient and family having consented to an operation on the condition that their family physician should perform it, even though that physician may have no surgical inclination or aspiration. The laity base their selection of a surgical consultant

often simply on results independent of the actual lesion to be contended with. Thus a man totally lacking proper training and experience may do an amputation or operate for some stray or indefinite pain, which results in recovery of the patient, and consequently stands out in the eyes of the community as a far safer and more desirable consultant than the surgeon of experience and training who happened to operate next door on some acute abdominal emergency, or advanced carcinomatous condition, say of the uterus, which resulted fatally. Even though in the first instance the amputation might have been avoided and the pain ignored; while in the latter the surgeon's sole duty had been to give the patient unselfishly the benefit of the one and only hope for life.

In addition to the proper education and training, personal experience and skill, the natural aptitude of a man, should be a potent factor in qualifying him to take up surgery as a specialty.

The physician is a minister of great ideas requiring proficiency, patience, perception and painstaking efforts in research. The surgeon is ever a servant of tyrannical duties, of arduous achievements demanding strength; decision, even to the point of obstinacy; foresight and other mental powers far beyond mere manual skill. The greatest good to the greatest number can only accrue through the combined efforts and labors of both. Unquestionably they should labor hand in hand, though neither one should allow his field of activity to extend beyond his specialty, into that of the other. It is just as incumbent upon the surgeon to give up to the physician his medical practice as it is that the man doing medical practice should turn over to the surgeon all cases surgical. The work in this way will be centralized where environment and surroundings are better conducive to success and where the good results which can only be obtained

through training, experience and skill may be so grouped and may so multiply in number as to stimulate and arouse that community at large.

The sphere of surgery is rapidly expanding and pathological conditions are becoming so much earlier recognized in their period of growth and development that the ability and skill to cover the entire field of even the specialty of surgery itself are vouchsafed to a very few operators of to-day. It is true that the majority of surgical interventions are safe and easy; the mortality—excluding acute abdominal emergencies and certain brain lesions—is low. Yet to decide whether an operation is justifiable is indeed in itself a grave responsibility, and owing to this expansion of surgery and that pathological conditions are seen much earlier than formerly, it is becoming daily more and more difficult to decide correctly and wisely for or against operative interference in many instances. To decide correctly on the one hand whether surgical intervention is indicated or necessary; or on the other hand, whether it may not be contra indicated or unnecessary calls for the most careful and conscientious study on the part of every operator.

The responsibility of the surgeon is indeed great, not only to his patient but towards retaining the confidence of the laity. The failure of an operation, either by incompleteness or death, reaches far beyond the loss of a life. For a community understanding an operation to be dangerous or having been accepted by a patient as a last resort, is generally lenient when failures occur; but in those cases where there is reasonable doubt of the justification of the operation, where the patient appears to the community as being in good health and the operative intervention be followed by failure, then it is that the community is obstinately unforgiving, and surgery receives a set-back which not only impedes its progress, but discourages and turns many an urgent case against a justifiable intervention. These are the in-

stances which demand that the surgeon shall ever maintain, in addition to his ability and skill, a close study of his records, an eternal vigilance, from which springs the power to grasp the essential features of each individual case, and thus formulate almost invariably a correct decision, for the betterment of his patient and the advancement of surgery.

The following observations of The End Results, Mental, Physical and Psychic, following ablation of certain organs and structures, are based on conclusions personally drawn from 1,250 operations occurring at the Private Sanatorium, Salisbury, in this State. Those cases cover a post-operative period of more than six months, as no case has been considered in which the post-operative convalescence have not extended over at least that length of time.

The mortality, occurring in this series of cases was 6.4 per cent. It is only fair, however, to add that the death rate has been made on the same basis as that used by the Mayo brothers in their gall-bladder records, namely, that if a patient entered the hospital alive, was subjected to an operation and came out dead, the death was accredited to the operation. Thus in one instance a patient succumbed suddenly from a pulmonary embolism, on the fourteenth day, following a hysterectomy. Though the convalescence had been absolutely uninterrupted, the temperature never above normal, and at no time, up to the moment of her death, had there been the slightest untoward symptom. Another death occurred twenty-one days after operation from acute nephritis following removal of a suppurating appendix. While still another patient succumbed to shock following operation for ruptured spleen, after having ridden a number of miles in an erect position in a buggy. This list also contains the deaths following "The operation of last resort" in the advanced stage of either the delayed or unrecognized cases of septic peritonitis. In one series alone of fourteen consecutive appendectomies, nine were drain cases with more or

less septic peritonitis. The aim in presenting this list of fatalities is not to indicate in the slightest the mortality incident to any special class of surgical cases, but simply to indicate the gross mortality occurring in the institutional work.

MENTAL RESULTS.

Though a temporary confusion of ideas to a varying degree is not infrequently found following surgical intervention, the state of mental aberration or actual insanity occurring as a surgical sequelæ always produces consternation and resentment. Fortunately it is an extremely rare occurrence, in comparison to the whole number of operations, and still more rare in comparison with the whole number of insane. Nevertheless, that it does occur should make every operator observant and vigilant towards detecting any manifestations previous to the surgical intervention, and thus be able to warn those interested in the patient. For it is a sequela, which may frustrate the aim of the operation; appall the family and friends of the patient, and bring an odium upon surgery which will be hard to eradicate.

It is far beyond the writer to discuss the relations between the casual factors and alienation of the mind following surgical procedures, save to call attention to several purely clinical facts. It has been noted by an eminent writer, "That the lower we go in the animal scale, the more important the visceral impulses seem to be in determining the actions of the individual. But in the normal, healthy individual these are kept in the background, whereas, during diseases the organic sensations may become so prominent and insistent as to be important in determining action."

Thus the state of alienation succeeding an operation may be wrongly attributed to the surgical interference, when, in reality, if the actual condition of insanity did not antedate the operation, a strong predisposition did.

The possible causal factors concerned in a case of post-operative insanity are innumerable, the physical condition of the patient; the neurotic tendencies, the great fear and apprehension of the anesthetic; the nature of the operation at that especial time; the kind of surgical dressings used; the after treatment, especially with that cruel and senseless withholding of water for hours and hours, and finally the drugs administered.

The question of absorption in septic cases, and the toxic influences, in those cases where the area of operation can not be rendered thoroughly aseptic, as the vagina, rectum and genito-urinary tract should be borne in mind as possible factors. Sex does not seem to be a potent factor, the statistics varying greatly on this point.

In the series of 1,250 operations there were four occurrences of alienation of the mind. Three of these proved to have had marked predisposition to insanity; while the fourth, a septic case, has made a complete recovery.

Regarding the remote end results, from 380 cases, of several years back, I find, from personal communication, taken at random, the mental condition unaffected. In fact, without exception, the general reply was unaffected or improved. This latter, of course, attributable to improved health and improved condition.

PHYSICAL AND PSYCHIC RESULTS.

The remote physical condition of a patient, as a post-operative sequela, may appear so self-evident to many of the profession as to be threadbare and lacking in value or interest; but it is not so with the laity. It is an inquiry not infrequently made. For, with the increasing recognition that surgical intervention, in this period of time, is more often accompanied by success than failure; that evil results are due more often from omission of an operation than from permitting one, the natural question arises, what will be the final

physical condition? Will it be possible to take up the former lines of duty, on passing from the surgeon's hand? This is not a infrequent inquiry regarding the operations on the appendix during the interval. Or a mother may fully realize that from a standpoint of safety and probable avoidance of serious trouble later; that the young daughter should be operated upon, yet she will hesitate to the point of refusal, wholly from dread that the young girl's remote physical condition may be impaired or she will show by physical depreciation the operation. It is not an unusual inquiry whether the removal of the appendix does not preclude the possibility of a long life. These are not questions of jest, but asked in all earnestness, and must be met by physicians and surgeons. It can be readily seen how this thought arises in the minds of the laity.

Formerly when surgery was looked upon and acknowledged to be an art of necessity, to be taken as a last resort, the remote after effects came in for slight consideration. The operation had accomplished its end if the patient did not die. Now, however, surgery is wisely looked upon even by the laity, as a science of election. One to be invoked, not just resorted to. The means of not only saving life, but of improving or removing conditions which are not in themselves necessarily dangerous, so much as undesirable. Again, the laity is rapidly, very rapidly, coming to the recognition of the immediate advantages and benefits obtained by early surgical intervention, even in some instances abreast with the profession. It is beginning to be understood that when the pathologic lesions are taken early in their period of life, how safe surgery is, and how seldom the dangerous and painful complications, immediate to former operations do now occur. So it is very natural that the layman's mind, freed of these points, should turn to the more remote end results and ask for assurance.

The point to be established, is not what the reflexed after

effect on the human body the removal of an organ or certain structures may produce—a most comprehensive study in itself—but simply to show that, taking the body complex as a whole. The physical psychic integrity is not destroyed by surgical intervention, and thereby remove if not a local prejudice, at least one too prevalent.

To illustrate this point. In a series of 380 cases taken at random, the percentage of total absence of any unpleasant physical or psychical post-operative sequalæ whatever was 96 per cent. Of the special cases worthy of note, one was rupture of the pelvis of the kidney, with extravasation of urine into the peritoneal cavity following the extirpation of the opposite kidney two months previous. The kidney was sutured and a large hydrosalpinx and fibroid ovary removed, followed by recovery. Even at advanced age extensive surgical interventions may be resorted to without untoward effect. Thus were two cases of large, adherent, abdominal tumors in patients aged 79 and 76 years respectively, removal by abdominal section, followed by an uninterrupted convalescence and complete restoration to health; while in another patient, age 87 years, a high amputation of cervix, with two extensive plastic operations on the vagina for complete prolapsus uteri was likewise followed by complete recovery. This patient is alive to-day, having experienced no unpleasant post-operative sequelæ in the slightest degree. Finally, two cases of interest illustrating that even extensive manipulation of structures and organs may be followed by complete recovery and the restoration of the human body to a normal state, not showing in the slightest degree the extent of trouble, nor the extensiveness of the operation. I mention a cystectomy for a large, densely and universally adherent cyst of the ovary, weighing sixty-nine pounds. The recovery was uninterrupted after a perfectly normal convalescence. One splenectomy, for a large movable spleen, extending into the pelvis, weighing nineteen pounds. This case was operated upon

four years ago. She has enjoyed excellent health, and has passed through two perfectly normal pregnancies.

In concluding, in order not to be misunderstood, I repeat that in the critical review of these 1,250 operations, the immediate complications or more remote particular results, which do or may follow any special operation, have been purposely avoided. The one object has been to show in a broad way that out of the large number of operations the gross result is highly satisfactory, and unless the pathologic lesion, either by delay, nature or extension, as to preclude it, that the human body resumes its normal state mentally, physically and psychically, even after the most extensive surgical intervention.

POST-OPERATIVE LEUCORRHEA—POSSIBLE CAUSES AND TREATMENT.

BY C. M. STRONG, M.D , CHARLOTTE, N. C.

To any one who has done much surgical work on the reproductive organs of women this subject must appeal.

The subsequent history of avarian tubal and even supra vaginal hysterectomy almost invariably show some form of this trouble and, like Banquo's ghost, don't down.

I for a long time dismissed these cases with some antiseptic wash, and abundant advice and a flattering prognosis, which, alas, did not materialize. This fact caused me to study these cases more fully, and has brought me to certain conclusions, which are not complete by any means, and I hope, by drawing your attention to them, that you can enlighten the subject more fully.

First conclusion.—We should prepare our patients by telling them that a leucorrhea will possibly follow an operation.

Second conclusion.—In order to cure these cases we must find the cause. While I have not always done this, yet in a few cases I have removed it and cured them.

I will give you my theories for what they are worth. I have found some of these cases are preventable, some amenable to treatment, and some are not. Also found about the same symptoms present. The symptoms usually come on from three months to one year, and this symptom is a more or less persistent leucorrhea—ichorous and offensive; this may be accounted for partially only from the fact that they usually consider themselves cured, and are careless about cleansing themselves; hence, we should always advise douches for some time after operation. But in spite of these, as I have noted in several cases, this objectional sequala has continued. I have noted several causes for this condition, and to better explain them will cite a few representative cases:

Mrs. B, age 22.—Was operated on two years before seeing me again for double ovarian dermoids. Good recovery; fine health. Ten months afterwards was troubled with profuse leucorrhea, offensive, ichorous. This continued in spite of continued and frequent saline antiseptic douches. On examination uterus showed atrophy; no tenderness or peri-uterine trouble. I believe was a presenile endometritis, because the uterus did not throw off the detrities at each menstrual epoch, and this retention sets up this endometritis. This same condition is noted after menuopause.

Treatment.—Curettage and swabbing out with carbolic acid 1 part, iodine 2 parts, and douche of creolin; six months after, no return.

Another case, Miss A; aged 18.—Operation three years ago; double pus tube. Three months after had the same form of leucorrhea; used same treatment, but only partial relief. Cause in this case, I believe, was due to the fact that the tubes were tied off from uterus instead of being totally obliterated. That is, by making an incision into the cavity of uterus and taking all of the tube out, for I believe, in most of cases of infection, it extends into the body of the uterus, and this keeps up the leucorrhoea. This class are preventable, provided we thoroughly curette and disinfect the uterus at time of operation.

Another case, Mrs. A; 42.—Eighteen months ago operation for multiple interstitial fibroids, in which a supra vaginal hysterectomy and ovariotimy was done; returned ten months after with a very troublesome, offensive leucorrhoea. It was the peculiar white of egg, viscid, indicative of cervical trouble. Examination showed enlarged cervical glands.

Treatment.—Scarrifying and deep burning with thermo cautery, which, by the way, I have found to be a very effective treatment for cervical catarrh.

Cause.—This was an uncured case of cervical gland infection. This treatment was successful in this case.

Mrs. S; 41.—Operated upon twelve months ago for multiple interstitial fibroid and ovariotomy; came back in five months with same story in her case. The discharge was more serious but was foetid; examination showed large, soft os, glands normal.

Cause.—I remembered having had trouble tying off the panpiniform plexus, leaving a haematoma on left side. I think I tied off the venous system too well; in this case produced a chronic stasis, and leucorrhoea treatment has been disappointing.

Final conclusion.—I don't think we pay enough attention to post-operative symptoms.

2. We should warn patients of their possibility.
3. We can prevent some of them.
4. We can cure some of them.
5. We can help some of them.
6. The text-books are silent about them.
7. There are enough good operators present to offer some other explanation and help to make our patients stay cured, or, possibly, I am the only one who has these unpleasant sequalæ.

PERINEAL LACERATIONS—PREVENTION AND TREATMENT.

BY W. F. MITCHELL, M.D., SHELBY, N C.

In a brief discussion of this subject I do not deem it necessary to enter into the anatomy of the perineum, and will only speak of this accident as it occurs in normal labor.

Of the many pathalogical conditions occasioned by labor, that of perineal laceration is one of the most frequent. It has always been difficult to give a correct estimate of what per cent of women are lacerated during labor, as authorities differ as to what constitutes a laceration. German midwives are compelled by the government to call a physician to close a laceration from one-half to two-thirds of an inch, including mucous membrane.

According to the classification adopted by Prof. Edward P. Davis, of Philadelphia, three-fourths of all primiparous and one-half of all multiparous patients sustain lacerations justifying suture. Another authority estimates that thirty-five per cent of primipara and about fifteen per cent of multipara are ruptured. Thus we see that no matter whose classification we accept, the frequency of this accident is admitted by all. Yet, notwithstanding these facts, there are physicians who claim they never meet with a laceration, and I can best answer such statements by quoting a well-known obstetric authority, who says: "The practitioner who claims that in an extensive practice he has never seen a lacerated perineum has become to-day a rara avis in the light of the recorded experience from hospitals, which certify to the necessarily frequent occurrence of this accident in the hands of the most expert."

When the many ills that naturally follow from this accident are considered it becomes the duty of the physician to use every means at his command to prevent the occurrence.

Indeed, there is no accident of labor that is followed by so many complications as that of laceration of the pelvic floor. Rectocele, prolapse, and various forms of uterine displacements are the direct results of this accident.

I wish briefly to discuss some of the best ways to prevent this accident, as I believe it should be the aim of the physician to prevent its occurrence, even though we were always able to repair the lesion.

A proper understanding of the manner in which the delivery of the head is accomplished will go a long way to prevent rupture, as it is at this stage of labor that it most frequently occurs. It is very important for the physician to have a thorough knowledge of the mechanism at this stage, and unless he masters it, his conduct of labor will be but little superior to that of a midwife.

In order to effect safe delivery and preserve the integrity of the perineum, the following cardinal rules should be observed: The shortest diameter of the head should be constantly kept in relation to the antero-posterior diameter of the outlet, and this is best accomplished by keeping the chin flexed upon the sternum until the occiput engages under the pubic arch, extension then slowly takes place, counter pressure being made against the head to retard the progress of labor until the perineum is fully relaxed; as extension proceeds the head is supported and pressed against the pubic bones as it sweeps over the perineum.

The older obstetric writers laid much stress upon what they called perineal support; but experience has proven that this was not only erroneous, but positively dangerous. Much misunderstanding and confusion has been the outcome of this teaching, for the profession has never entirely gotten rid of the idea that the perineum must be supported. It is the head beyond question that needs to be supported, and any direct pressure of the perineum against the presenting part might cause the very injury that we wish to avert.

In my experience, chloroform is a most valuable agent for the relaxation of a rigid perineum, and should be classed among the preventative measures. The profession has been too chary of the use of anæsthetics in labor, and to my mind, without any good reason, for it is a noteworthy fact that accidents from their use in obstetrical practice have been exceedingly rare. When there is apprehension of injury to the perineum, chloroform should be given intermittently during the second stage of labor, and as the head passes over the perineum it should be pushed almost to the surgical degree, and immediately withdrawn as soon as the head is delivered. When given in this manner it has little or no tendency to abate uterine contractions, nor have I ever had a hemorrhage from its use. Many physicians are prejudiced against chloroform for fear of hemorrhage; but there is little or no danger from this source unless anæsthesia is prolonged. There are few cases of primipara in which I do not resort to chloroform, and in many instances it has been the means of preventing laceration when other means would have failed. The longer I practice obstetrics the more frequently I resort to chloroform anæsthesia, not only to prevent injuries but to relieve the intense suffering incident to parturition.

In the forceps we have a quick and efficient means of terminating prolonged labors, thus saving the patient unnecessary suffering, and preventing injury to the pelvic floor. The forceps have a wide range of usefulness in obstetrical practice; but I wish to call especial attention to the following class of cases in which they are not only indicated; but the physician who fails to apply them is derelict in his duty.

After the first stage of labor is completed the head is forced down upon the pelvic floor, and although the uterine contractions may continue, they are insufficient for the delivery of the child. The vagina becomes hot and dry, the soft parts swell, the head ceases to recede after each contraction, and the condition of the patient becomes one of great distress with

the ultimate result of deep injury to the pelvic floor if not quickly relieved.

The application of the forceps in these cases will not only relieve the patient from an agonizing condition; but will be the means of preventing serious injury to the soft parts. The physician who sits idly by, awaiting nature to effect delivery in these cases, reflects no honor upon his profession, and fails to do his duty to his patient. A prolonging of this condition will result in sloughing of the pelvic floor, and the physician should apply the forceps before the parts have become œdematous and the patient is exhausted. I am persuaded that we are disposed to rely too much on nature in our obstetrical work, and believe many injuries could be averted, and even lives saved, if we were not so timid and hesitating in coming to the relief of nature.

Our modern civilization has evolved a class of nervous women who bear the shock and pain of labor with much less fortitude than did their mothers and grandmothers. Every physician who has been in active practice for any length of time will bear testimony to the fact that it is necessary to use the forceps, or resort to other means, to effect delivery with much greater frequency than formerly. There is a growing sentiment among the profession in favor of a more general use of chloroform and a more frequent resort to the forceps, not only as a means of preventing injury to the maternal soft parts; but to relieve the suffering of the parturient woman.

Laceration will sometimes occur after all the skill and resources of the physician have been taxed to the uttermost. It is estimated that about 15 per cent of the lacerations are unavoidable. After the delivery has been completed the physician should personally examine for this accident, as there may be deep laceration of the pelvic floor without any external evidence. When laceration has occurred, it should be immediately repaired, unless contra-indicated from extreme exhaustion of the patient. It is easy for the tired physician

to persuade himself that these injuries will heal without suture, and it is wonderful how well nature repairs small lacerations; but the doctor has not fully performed his duty when he leaves his patient with an unrepaired laceration. The operation is usually not difficult, and the results are good when proper cleanliness is observed. It is true that it sometimes fails; but this in no way interferes with a subsequent operation. The immediate danger from an unrepaired laceration is infection, and if the patient is so fortunate as to escape this, her convalescence is usually retarded, and ultimately she has to run the risk of rectocele, prolapse, or some uterine displacement, which are direct complications of this injury.

A visit to the clinics of our leading gynecologists will reveal the fact that a large per cent of their operative work would have been rendered unnecessary had the obstetrician not been negligent of his duty. Hundreds and thousands of women annually submit to operations, which might have been averted by sewing up a lacerated perineum. These are facts that can not be denied, and they are a constant reflection upon the work of the general practitioner.

In concluding this imperfect presentation of this subject, I wish to make an urgent plea for better obstetrical work, and if every physician would make it a rule to repair these injuries as they occur, it would prove an inestimable blessing to the parturient woman, and our hospitals would no longer be filled by them seeking relief from the gynecologist.

REPORT OF TWO FREAKS OF NATURE.

BY G. E. FLOWERS, M D., GRANITE FALLS, N. C.

Not being accustomed to writing for the public or even speaking to an audience, you will excuse the brevity of a report that I wish to read of two remarkable freaks of nature, or deviation from the ordinary circumstances. I have been practicing medicine about twenty years, and my work has largely run into an extensive obstetric line, and those I met in my personal work. About four years ago, I was called to the bedside of a robust white single woman. I found her in the last stage of labor, and while hasty preparations were being made by me, to get ready to deliver her, she seemed to be very anxious to see her baby, assuring me that she was afraid that it would be dark-skinned, as she said that she had been badly frightened by a black cow some months before. Everything ready, I delivered her of a white baby girl, in all appearances an eight-months child. Handing this over to a woman attendant, and she calling me back in haste to her, I very soon delivered her of a full-term genuine mulatto boy, which, by the way, was much darker than the average. Possibly some brother will say, "Oh, that was a mother mark"; but, gentlemen, it has been my misfortune to deliver quite a number of mulatto babies, and this was one which I recognized by its wooly hair, bow-legs, straight feet, and the general features of its parentage. My belief is (and I am borne out in it by after knowledge) that the dark baby was one by a colored man whom she lived with at the Catawba Springs nine months prior to their birth. Hence her fear that it would be dark-skinned. And that as she menstruated one month later and was then living with a white man, that he is the father of the other, and that one month elapsed between those conceptions. I am truly sorry that those babies were born in a cool spell in the spring, and died in from eight to fifteen hours,

not being properly cared for, and being quite unwelcome on the mother's side. But so anxious was I for them to live that I begged the attendant for some old woolen rags and pieces of shawls (the best they had), built a fire, wrapped them as best I could, and left them on the hearth, breathing nicely.

The other freak is found in a married lady, she weighing near three hundred pounds, and consists of a complete vaginal septum or upright partition. This woman, whom I will call Mrs. H—, was in her first confinement, had been married eight years, and was thirty-four years old.

In my first examination, I found that, to enter the os uteri, I was compelled to press some membrane out of my way to the right side, which gave quite a degree of resistance, and I noticed that it gave this resistance to the vulva, externally. On my next examination, which I usually do in an hour or two, I found like conditions, but to the opposite side. When and whereupon I made a careful digital and ocular examination, and my finding was a complete upright partition of the vaginal orifice, feeling between my fingers, or finger and thumb, to be about the thickness of ordinary upper leather, or near the sixteenth of an inch, and being attached to the floor and roof of the passage.

As labor advanced, the os was easier reached by the right entrance, and as it progressed, the occiput entered this road to the world, and with the exception of a long tedious labor, it was natural, which features we can attribute to her age, and other existing circumstances. Nevertheless, this apparent blockading, this membrane dilated as did the other parts, and she was happily delivered of an ordinary girl baby without the least ebrasion or laceration. Did any member of the fraternity ever meet a similar circumstance?

ARE WE DOING OUR DUTY TO PREVENT THE SPREAD OF VENEREAL DISEASES?

BY J. H. MARSH, M.D., FAYETTEVILLE, N. C.

Mr. President, and Gentlemen of the North Carolina Medical Society:

With the discovery of vaccination by Edward Jenner, smallpox was robbed of its terrors, and the human race was the recipient of the blessings of the first great victory of preventive medicine. Later Pasteur, through long years of toil and scientific research, finally established the preventive treatment of hydrophobia on a firm basis; and a disease with a mortality of one hundred per cent has been reduced to less than two per cent, if the treatment is administered at the proper time. And another of the arch enemies of mankind has been robbed of its power to destroy.

Diphtheria, which had a mortality of from seventy-five to eighty per cent under the best of treatment, has been reduced to from ten to fifteen per cent, under the proper use of antitoxin, and another of the enemies of our race has been robbed of its power to destroy to a very great extent.

With the same object in view, but along different lines of investigation, Walter Reed and his associates discovered that certain mosquitoes were the carriers of the yellow fever germ, and in their effort to prove their theory and establish on a scientific basis their discovery, the lives of some of the noblest men in our profession were sacrificed that humanity might be relieved of one of its most deadly enemies of disease, and with that discovery and the proper sanitary regulations, we all know how Cuba and our Southern country has been freed practically from one of the most fatal plagues that they were heir to.

Likewise the plasmodia of malaria was also demonstrated, and for the first time this disease was attacked on its own soil,

and will no doubt in the near future be robbed of many of its terrors.

Along different lines investigators are actively at work the world over in the effort of trying to find out the germs that produce the different diseases and the antidote or prevention of these diseases; and no doubt the near future has rich rewards for us in our efforts to relieve and prevent suffering.

When the discovery of antiseptics was made known to the profession by Sir Joseph Lister, surgery entered upon a new era, and bacteriology and pathology began to receive the attention which they deserve. The germs of the different diseases were isolated and surgery became a science as well as an art, and this most important branch of our science to-day has advanced to the point that our laboratory is our most important guide, and the question is no longer asked, what do we think? but, what do we find to be the diseased condition?

With the many advances along all lines of medicine and surgery, it seems that we have been slow to attempt to try to prevent the spread of the venereal diseases. Is it not time that we take up this class of diseases and in some way try to prevent the promiscuous spread of a class of diseases which causes more suffering and misery and saps the human family of more vitality than all of the other diseases combined, in all probability?

It is stated on good authority that one-half of the blindness of the country has been caused from infection. In a recent issue of the Journal of the American Medical Association, Dr. J. Parks Lewis, of Buffalo, says: "The ophthalmia of infancy is an infectious germ disease," and advises the instillation of a solution of silver and salt into the eyes of the new-born, and in that way prevent one-fourth of the blindness of the United States. Would it not be far better to prevent the cause of that blindness? A prominent physician who attends the students of one of our large universities, said a few years ago that the first prescription he wrote at the

beginning of the college year and the last one he wrote at the end of the year were for venereal diseases. How often have we treated unfortunate young men, who had contracted the disease, in a careless way and never explained the dangers and far-reaching consequences of not being properly treated; not only to themselves, but to the innocent wives they will one day marry; how often have we been called upon to treat those innocent victims for those same diseases, and how many pus tubes, ovaries and uteri have we removed as a consequence of these unfortunate unions. We have attended abortions, delivered still-born infants, treated infants born with infection, and often followed them to death. And, after exhausting all of our skill in medicine and surgery, seen the patients finally devoured by the poison.

Gentlemen, there is no use for me to try to describe the horrors of such a life. We all have seen the ravages of this monster enemy in all its forms,—too often for our own peace of conscience. Should we hesitate in taking up this subject on account of its delicate nature, which we all admit, and let our patients go on in ignorance till it is too late, and finally end a miserable life, conscious of the sin which we have allowed them to ignorantly commit? Has the time not arrived when we must act? When millions of dollars are spent each year on patent medicines, the only claim for which is that they cure venereal diseases? A friend of mine told me some days ago that he saw in the show-window of one of the principal drug stores at Hot Springs a half-dozen buckets of mercurial ointment and potassium iodide crystals labeled "Society Salve,"—"The Mud that made Hot Springs famous." I only desire to call attention to a few points on this subject, with the hope that every member of the profession will awake to the importance of educating his unfortunate patients in this matter, and that a campaign will in the near future be waged against the habitues of the pest houses of these diseases throughout our land, and we will not sit idly

down and allow our legislators in Congress to enact laws to expose the frauds of the patent medicine men who are reaping a harvest at the expense of the unfortunate victims, but rush to our duty and demonstrate to the world that when duty calls the entire profession is on the alert and not one drone is to be found who is willing to benefit by the labor and sacrifice of another in this great work, but each member is willing and ready to subordinate his personality and make any sacrifice for the bettering of the condition of the whole people.

CARCINOMA OF THE PENIS.

BY THOS. M. GREEN, M.D.,

Carcinoma of the penis occurs, according to the various authorities, from one to three per cent of all carcinoma in the male, and is the form of neoplasm most frequently met with in that organ. It is usually encountered after the fortieth year, most frequently between the fiftieth and seventieth years, although Freyer reports a case in a youth of seventeen years. Kauffman gives six per cent in the third decade.

Etiology.—Like carcinoma elsewhere, it is frequently associated with chronic irritation, whether it be a scar at the site of an old ulcer, specific or otherwise, or long-standing phymosis, with accumulation of smegma and resulting balanophosthitis, or a traumatic scar. Of all the etiological factors, phymosis and venereal warts seem to be the most prolific. Kauffman gives twenty-nine out of thirty-three cases associated with warts. Demarguay reports forty-two cases out of fifty-nine occurring from phymosis, and Keys claims that the circumcised Jew is exempt.

Pathology.—Küttner describes three forms:

First form: *Papillary Cauliflower;* most frequently seen in the presence of phymosis. Beginning on the glans, or inner layer of the pepuce, growing rapidly and involving scrotum, pubic coverings and entire penile structure.

Second form: *Carcinomatous Ulcer;* less frequent; beginning on the glans or coronal sulcus, growing slowly at the local point, but manifest remotely, out of all proportion to the extent of the local involvement.

Third form: *Non-Papillary;* rarest of all. Has no papillary arrangement, but rather resembles carcinoma of the breast. Very malignant.

The growth may invade all the penile structures, scrotum, pubic coverings, prostate, rectum, bladder and seminal vesicles, by direct invasion, although Küttner has demonstrated

that in the corpus cavernosum, metastatic nodules may be found remote from the diseased area, with healthy tissue intervening, simulating metastasis of sarcoma. The corpora cavernosa seem to enjoy a great deal of resistance to direct invasion, while the corpus spongiosum and urethra are even more so. Metastatic extension is by the lymphatics, except in the corpora cavernosa, superficial penile lymphatics to the inguinal and femoral lymphatics, and deep penile lymphatics to the retro-peritoneal glands. The time of invasion varies; in some cases early, and again delayed out of all proportion to the extent of the local growth. The glandular extension shows often a tendency to be arrested at the inguinal and femoral lymphatics for some time before extending to the retro-peritoneal glands. Early lymphatic involvement is generally the rule. Secondary pyogenic glandular infection may be seen late.

Symptoms.—Little or no pain is experienced until toward the end, when itching may or may not be present. Bleeding on manipulation and sloughing, with characteristic epitheliomatous discharge, is the rule. Death is due to exhaustion, whether it be from septicæmia, constant hemorrhage, or cachexia.

Diagnosis.—Becoming manifest usually in the last decade of life, when the sexual life is practically spent, one would naturally suppose the recognition of it to be comparatively easy, and yet, such is not always the case. It is to be recognized from venereal warts, chancroids, chancre, or tuberculous ulcer. Careful attention to the history, and examination, will eliminate all of these except chancre. Here, except in doubtful cases, specific treatment should always be tried. In fact, it seems to me that the patient should be given the benefit of this doubt in all cases.

Prognosis.—Depends upon the extent of the lesion. Most authorities give a rather gloomy prognosis, especially when the lymphatics are involved. Some go so far as to discourage operation when there are extensive inguinal enlargements.

Judging from the results recently demonstrated in Kelly's clinic, where it was shown that about fifteen per cent of uterine carcinoma with retro-peritoneal involvement were saved after careful removal of the pelvic lymphatics, together with the growth, it would seem to me that these patients should have an equally fair chance with a similar treatment, better, of course, the earlier seen. The fact, too, that the metastasis by the lymphatics is often arrested for some time at the inguinal and femoral glands, before extending into the abdomen, seems to add further hope. At best, however, any expression of prognosis should be guarded, certainly until one has seen the extent of the metastasis.

Treatment.—In the early stages, where no mestastasis has taken place, treatment may be limited to thorough curettage or exposure to the X-ray. These growths, however, are seldom seen or recognized until there is lymphatic involvement. The question of how much of the organ should be amputated is often a difficult one to decide. Partial amputation should never be undertaken if the corpora cavernosa have been extensively invaded, since, as Kuttner has shown, nodules of cancerous tissue may be left in the stumps of these bodies, with certainty of local recurrence, as well as further mestastasis from these points. We are most usually confronted with the problem of complete extirpation, extensive dissection of both groins, and laparatomy, with removal of the retro-peritoneal glands. Most authorities advise leaving the testes, when sure of no invasion, while others advise complete emasculation, chief among whom is Pantolini, who claims better psychological results with total emasculation.

Report of Case.—J. D., white, male, age 46, widower, bar-keeper, presented himself on January 2, 1906, with the following history. Family history, negative; past history, negative. Has always enjoyed good health, except from time to time has had attacks of malaria. Never had venereal warts or phymosis. Had gonorrhea in 1895; cured. In 1896 had a chancre; was never thoroughly treated; followed

by secondary symptoms, which were mild. Sixteen months ago he noticed a small nodule appearing on the site of the chancre, just behind the sulcus, which grew slowly and without discomfort. At the end of six months it had attained the size of a small marble, when it became ulcerated. Four months later he noticed slight inguinal enlargement. That was six months before he presented himself to me for treatment. From then until I saw him, the growth increased in size rapidly, assuming more and more the characteristics of an epithelioma, with concomitant increase in the growth and extent of the lymphatic involvement.

Physical Examination.—Medium stature; fairly well developed, somewhat emaciated and cachectic; reflexes normal; chest and upper extremities, negative; abdomen, ague-cake; spleen 5cm. below costal margin. Situated on the dorsum of the penis was a cauliflower growth, 10cm. in circumference, 4½cm. in diameter, involving the skin, pepuce, posterior half of the glans, coronal sulcus and corpora cavernosa, to some extent. The corpus spongiosum and urethra were not involved, nor did careful palpitation of the testes, epidydimi and vas deferens, as far into the inguinal canal as the finger could reach, elicit any nodulations. The corpora cavernosa proximal to the growth were apparently free. The growth bled freely upon manipulation and emitted a foul-smelling discharge. The glands were enlarged in both groins, especially the right; freely movable; hard and not painful. The enlargements were confined chiefly to the inguinal chain, but clustered about the femoral opening; one very large gland on the left was situated at, and adherent to, the saphenous opening. Rectal examination, negative. Blood showed slight hæmoglobinæmia; urine negative.

Treatment.—Three weeks of vigorous treatment with mercury and iodides, previous to my seeing him, without effect. Refused to allow removal of portion of growth for microscopic examination. Operation under ether; time, three hours. Consisted of free removal of inguinal and femoral

glands on both sides, with splitting of the external oblique tendon, in order that the cord could be followed to the internal ring. The penis was then extirpated by Gould's method, consisting of complete extirpation of corpora cavernosa and implantation of the uretha in the perineum at the lower angle of the wound. The stump of the corpus spongiosum was not dissected from the urethra, but the latter was left a little longer and split up, in order to prevent as much as possible a subsequent stricture at the muco-cutaneous junction. Great difficulty was experienced in dissecting the corpora cavernosa from the rami of the pubes and ischii, a procedure accompanied by free bleeding. A permanent catheter was used for five days. Testes were not removed.

It was my intention to further safe-guard the patient by opening the abdomen and removing, if necessary, the retro-peritoneal glands, at a second operation. He, however, refused further operative procedure.

Convalescence was uneventful. At the present time—about five months since the operation—he seems to be in perfect health, having gained fifteen pounds, and has returned to work. He seems perfectly contented with his condition; has no sexual desire, but has felt at times, an itching sensation in the glans penis. So far, I am unable to demonstrate any recurrence of the growth. I believe, however, that had he permitted me to carry out the entire plan of procedure, I could offer him a more than fair hope of cure. The act of urinating is accomplished in a sitting posture, without difficulty.

Microscopically, the growth was carcinomatous, with papillary arrangement. The lymphatic glands from both groins showed metastasis, as well as secondary pyogenic infection. No nodules of growth found in the cavernous body.

It occurred to me that the objectionable feature of hemorrhage during complete extirpation of the penis might be eliminated by ligating the internal pudic artery beneath the superficial layer of the triangular ligament, before attempt-

ing to dissect the crurae of the penis from the rami of the pubes and ischii. One can scarcely avoid wounding these bodies in the usual procedure, an accident which will prove very annoying, and in some cases of serious import. In order to accomplish this, the preliminary incision through the raphe of the scrotum down to the penile structures is performed as in the Gould method, with an extension of the incision above to encircle the penis, cutting through, at the same time, the suspensory ligament, and then ligating its dorsal vein. The incision below is continued down into the perineum to a point about on a level with the bulb of the corpus spongiosum—dividing the overlying tissues to clearly expose this structure. The two halves of the scrotum ore now retracted and the superficial perineal coverings pushed away from the medium line, so as to expose the crura of the penis on each side, resting on the rami of the pubes and ischii. The floor of the triangular space thus exposed is formed by the anterior layer of the triangular ligament, the base of the triangle by the lower edge of the triangular ligament with the crura of the penis forming its sides and converging above to form the apex. An incision through the triangular ligament at a point marked "X" in the diagram on a level with the bulb and just to the inner edge of the crurae on either side will expose the internal pudic vessels at a point where they divide into their branches to supply the various elements of the penis. If one contemplates implanting the stump of the corpus spongiosum, surrounding the urethra in the lower angle of the wound, only such branches as supply the cavernous bodies and dorsal artery of the penis should be ligated, leaving intact the branch to the corpus spongiosum or artery of the bulb. If the entire bulb is to be removed from about the urethra, then the vessel should be ligated before it splits up into its various branches. The remainder of the procedure is similar to Gould's method.

This method would render the procedure practically bloodless and would greatly facilitate a clean and thorough dissection.

TREATMENT OF TYPHOID FEVER.

BY J. M. MATHEWS, M.D., MOUNT PLEASANT, N. C.

This subject is so common, and has been before the Medical Society so often, that I feel a delicacy in attempting to write a paper. But perhaps it will be of some interest to some of us to discuss it again.

When called to a typhoid patient, I usually give a dose of calomel to open the bowels. In ten or twelve hours after there has been a good action of the bowels, I give ten minims of aromatic sulphuric acid, or diluted hydrochloric acid, every four hours. I also give ten minims of oil of turpentine three or four times per day, unless the patient has trouble passing his water. I give liquid diet from first to last, or till his fever has been broken about two weeks, and no tympanites. If the digestion is good, I think milk diet is the best. If sweet milk curdles, I use pepsin, or soda or lime water after milk. Sometimes buttermilk is relished and agrees with the patient better than sweet milk. If the patient can not take the milk, I often use a teaspoonful of brandy to a glass of milk. Some people take the milk well to get the brandy.

To reduce the temperature, nothing is better than cold water, if the patient can bear it well; if not, use warm instead. I think the plunge bath is all right when it can be conveniently used and the patient can bear it. I usually prefer sprinkling or pouring as the most convenient mode, when the patient is weak. If the fever is hard to control, I use an oil cloth under the patient, raise it on each side so the water will run off into a tub at the foot of the bed. This method bathes the back, and has a tendency to prevent bed sores. I had a patient some years ago who had been drinking a large amount of new brandy. His temperature rose to one hundred and five and his pulse so weak and fast I could not count them; I put him in a wet sheet, poured two buckets of ice water on

him, kept him there for twenty-five minutes, repeated the bath in twenty-four hours; patient rested well after each bath, and made a good recovery. While bathing it is well to keep up friction by rubbing the patient with a rough cloth, thereby producing good capillary circulation. Always bathe if there are no contra-indications, when the temperature is above one hundred and two degrees. It is sometimes necessary to bathe even when the temperature is below one hundred and two.

Medical Treatment.—Keep the secretions as nearly normal as possible. For a dry tongue you have no better remedy than turpentine, as it acts on the secretions. I give oil of turpentine from the first to keep the tongue moist. Keep the kidneys acting with sweet spirits of niter or some mild diuretic. For constipation I use the injection of warm water, or give cascara evacuant, or castor oil. I do not hesitate to give minute doses of calomel when I think it necessary, because in this disease the liver is always sluggish; this draws the bile from the gaul bladder and flushes the alimentary canal with nature's best antiseptic. For intestinal antiseptics, I use salol and sometimes sulpho carbolate of zink. For tympanites, I use oil of turpentine internally and externally over the bowels. If the digestion is not good, I give pepsin after the milk. If the bowels move too often, I give subnitrate of bismuth, or some form of opium. For hemorrhage of the bowels, I use an opiate to check the peristalic action of the bowels, and put ice or cloths wet in cold water over the abdomen. When the hemorrhage is great it is sometimes necessary to use bottles of hot water about the patient to keep up capillary circulation. A normal saline solution is sometimes useful. For stimulation I use brandy and strychnine. I also use tincture of digitalis if the fever is broken and the pulse is very fast and weak.

When the bowels are perforated, give an opiate to quiet the patient, and turn him over to the surgeon and undertaker. But if I were to attempt to give a treatment in full for all

complications and symptoms, it would make this paper entirely too long. You must treat the symptoms as they arise, exercising your good common sense.

Dr. M. L. Mathews and I had fifty-five cases of typhoid fever in 1903. Four of them had hemorrhage of the bowels. One died of hemorrhage, and one of intussusception of the descending colon. Only two of the fifty-five died after having received the treatment I have given you to-day. This is the treatment I have used for several years with marked success.

ARTHRITIS DEFORMANS IN CHILDREN, WITH A REPORT OF TWO CASES.

BY LAWRENCE E. HOLMES, M.D., ASHEVILLE, N. C.

I wish to report to you two cases of chronic polyarticular osteoarthritis in children. Unfortunately, however, the reports are very incomplete and lacking in many points which would be of interest; but still, on account of the rarity of the condition, they seem to me to be worthy of being placed on record. Both cases occurred in a family of the better laboring class, not very far from here, in the North Carolina mountains. I never saw either case in any way professionally, otherwise the reports would not be so very incomplete. The first case I saw about ten years ago in my medical student days, when I was in the mountains on one of my summer vacations, and it was at this time that most of the following history (Case I) was obtained. Some few additional points were given me by the mother some years after his death, at the time the notes and photographs of Case II were taken, in September, 1904. Both cases had, I believe, been treated at different times by different doctors, but what their diagnosis had been, or what the treatment, I do not know. I feel that I must apologize for the incompleteness of these reports, but on account of the way in which they were obtained, this could scarcely be otherwise. The mother was rather an unusually intelligent woman for her position, and so far as the reports go they are unquestionably correct.

Case I.—F. A., boy, 18 years old. Sept. 24, 1896.

Family History.—See Case II.

Previous History.—Till 11 years old was unusually strong and healthy.

History of Present Illness.—At this time, in March, 1890, is said to have had an attack of the "grippe," after which he was never strong again; during this attack all his joints were

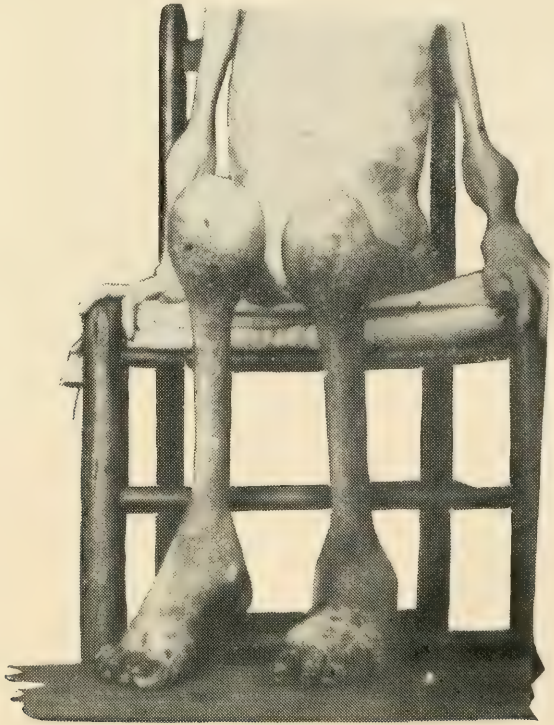
sore. Shortly after apparent recovery from this condition, he was out in a rain and got damp; the pain in his joints returned and this time was very severe, making him cry out at night. The joints were also swollen, and the right knee remained so for a long time; stiffness of the joint was marked, though in a short time he was able to bear his weight on it. At this time he was affected with a nervous twitching, said to have been chorea, which was so severe as to prevent his feeding himself or walking. This condition lasted for several months, but in the autumn (of 1890) he was so much better that he was able to go to school, and he remained fairly well for eighteen months (till the spring of 1892), being able to work and go to school much of the time. In the spring of 1892 he lost his appetite and began to lose weight, and his joints, especially the knees, again became painful; under treatment, he improved and was able to work during the summer. Early the following winter (1892-'93) he got bad again, joints became swollen and painful, and he had to take to crutches, which he was able to use till the following February (1893), after that he was never able to walk again. After the knees, the ankles, elbows and wrists were affected, then the fingers and thumb; the swelling being particularly marked in the middle finger and thumb of the left hand. In the autumn of 1894, a seropurulent discharge began to take place from the skin of the dorsal and lateral surfaces of both feet and both ankles, which at this time were greatly swollen, just as seen in photograph of Case II, practically all the joints of the foot being affected; it was more like an oozing, somewhat similar in character to what occurs in cases of severe oedema of the feet and legs, except that instead of being serous the discharge was seropurulent and later became purulent; the discharge was sufficiently profuse to require daily dressing; large thick scales formed on the weeping, and later ulcerating surfaces, which every now and then would come away, new ones forming in their places. The raw

surfaces were all superficial, having no connection whatsoever with the joints. This condition lasted altogether for about two years, on the right foot rather longer than on the left. The toe nails became diseased, and eventually all the nails came away, the matrix being destroyed; the discharge ceased, and the skin became apparently healthy again and remained so till death occurred, about a year later, in 1897.

About the same time that the skin of the feet became affected, his right eye was attacked. The trouble began with severe pain and aching in the back part of the eye and inside of the head. The lids were swollen, the eye became inflamed and bloodshot, lachrymation and photophobia being very marked; this condition lasted for about a fortnight, when the severe symptoms subsided; vision began to fail from the outset; for two or three months he could see a little, but his vision gradually grew less; at the present time he can not distinguish a candle, but can tell when a light is brought into the darkened room.

Present condition and general appearance, over six years after the original onset of the disease, are very much like that of his brother (Case II) as seen in the photographs. The anæmia, emaciation, muscular atrophy and joint involvement are equally marked; eight months ago he weighed 72 pounds, now doubtless considerably less. All joints are greatly swollen—hips, knees, ankles, elbows and wrists, practically all the joints of hands and feet, the phalangeal joints as well as those of the carpi and tarsi; the shoulder joints show less evidence of disease. In some of the joints, especially the wrists, the bones seem to be forced apart, the swollen joints have a pulpy feel, though rough and hard in places (the result of the osteophytic growths). Both feet are very much swollen and the surface rough looking, not unlike elephantiasis. The chest is very proturberant, especially to the left, there is lateral curvature of the spine, with concavity to the right; rigidity of the whole spine is very marked, with swell-

CASE II.



CASE II.

ing and tenderness of the joints of the lower dorsal and lumbar portions. There is very pronounced weakness of the spine, and he is unable to sit up. The above condition of chest and back began early in the disease and has been gradually getting worse. The cornea of right eye is hazy; pupil almost occluded by contraction and with exudate through which there seems to be a minute opening in the centre. Heart action varies greatly, sometimes slow, sometimes fast; at times quite feeble, at times irregular and intermittent. He complains of a feeling of fullness and oppression at these times, and says it feels as if there were not room for his heart to beat.

Sometimes he has trouble in passing his water, and it is always slow in starting. He is usually constipated. The boy gradually became more emaciated and weaker, and died in 1897, about a year after these notes were taken, and over seven years from the onset of the disease.

For the last four years of his life he was absolutely helpless, being unable even to feed himself.

Case II.—J. A., 12. September, 1904.

Family History.—Father and mother living, the latter in good health, the former, a farmer, shows some symptoms of a chronic endocarditis and nephritis, though he is able to work much of the time. Eight brothers and sisters living and unusually healthy looking; one brother died of pneumonia followed by empyema at age of 7; another brother died at 18, as described above (Case I).

He is himself the seventh of eleven children. Two great uncles are said to have died of consumption. The mother is said to have suffered for some time in her early life from some skin disease of a very indefinite nature, from which her mother also suffered.

Previous History.—Had whooping cough when 3 years old; and later, what was called "walking typhoid," otherwise always strong and well till the present trouble began.

History of Present Illness.—In April, 1901, when 8½ years old, he began to limp, and slight puffiness with some tenderness was noticed under each knee cap. Soon the whole knee joints became swollen and painful, the pain being worse at night. The shoulders, elbows and ankles were next affected in the same way and later the left wrist joint and the last joint of the left thumb; pain has been very severe much of the time, especially at night, when he often wakes up crying out with pain.

One month after he was taken ill he took to crutches, and used them for nine months—till February, 1902—since which time he has not walked at all. So far as his mother can tell, he has never had any fever, but sweating has been very profuse all throught the illness.

On December 22, 1903, he was seized with very severe pain in his left eye, most severe posteriorly; the eye became red and inflamed, lachrymation being very marked; four days later vision began to fail in the affected eye and has been gradually diminishing till now he can merely distinguish light from darkness.

Present Condition.—The accompanying photographs give a better idea, than can any verbal description, of the general condition and appearance of the patient. They were taken about three and a half years after the onset of the illness—at the same time as the present notes were taken, and about six months before death occurred.

The child is exceedingly anæmic and emaciated, atrophy of all the muscles is very marked, especially in the lower extremities, which look like pipe stems, there being little left but skin and bone.

The left hip is dislocated posteriorly, the joint being greatly swollen; the left thigh is so adducted that when the child is on his back, it lies over the right hip; both thighs are fixed at right angles to the trunk, and the legs at acute angles on the thighs, and are all immovable. The knees are both greatly

swollen, and rounded, puffy between the bones, which seem to be a finger's breadth apart. The ankles are also greatly swollen, as also are the tarsal and metatarsal joints, causing a more or less uniform enlargement of the whole feet, this enlargement being firm but puffy. The left foot is partly covered with a heavy, whitish scale, which the mother states comes off every now and then, and then reforms. The elbow joints are not so greatly swollen, though the forearms are markedly flexed on the arms, and there is slight motion in the joints. The left thumb nail is enormously enlarged and elongated, and excessively tender.

Lateral curvature of the spine is very pronounced, the concavity being to the left; the right side of the chest is enlarged and bulging. Bed sores have been present for months. The position in which the photograph shows the child, is the relative position in which he lives, that is, there is no change in the relation of the different parts of the body to each other, when he is changed from a sitting to a recumbent posture, for one portion of the body can not be moved without moving all, except the slight motion in the forearms and fingers, and he is quite as helpless and almost as motionless as if he were carved in stone.

These cases are interesting on account of the rarity of the condition, as a whole, and also, on account of the rarity and severity of the associated conditions or complications, with the exception of which they are more or less characteristic examples of the severe form of arthritis deformans, as it occurs in children. This in itself is a condition of which we see very little and know even less. Garrod, one of the most careful students of the disease, writing on the subject in 1895, says the time is not yet ripe for any adequate description of arthritis deformans as it occurs in children, for the whole subject of the chronic joint diseases of children constitutes a chapter in clinical medicine which yet remains to be written, and he goes on to say that he is convinced that some cases which, on account of their clinical features, are classed as examples of

arthritis deformans in children, are not truly of that nature. In order to impress upon you the rarity of the condition, I might say that I can find no mention of the subject at all in Holt's well-known book on diseases of children; another author of a book on Pædiatrics dismisses the subject with the words, "though rare it has been observed." [2] A few years ago Koplik[3] was able to find record of only 18 cases. In the 500 cases of arthritis deformans reported by Garrod,[1] only 3 began before the age of 9; and out of 110 cases reported by McCrae,[4] only 2 were in children. Still[5] has reported a number of cases of chronic osteoarthritis in children, in which, in addition to the joint involvement, which in many cases was characterized by progressive effusion and enlargement, with absence of osteophytes, the periarticular tissues being more affected than the joint itself, there was marked enlargement of the lymphatic glands and spleen. Since the publication of his article, this condition has been frequently spoken of as "Still's Disease." It is very doubtful whether this is a specific entity, but it is probably merly a variety of arthritis deformans as it occurs in children, in whom, as McCrae[4] points out in explanation of this condition, there is a much greater susceptibility to lymphatic involvement than in adults. In the same way the absence of osteophytes may be explained by the absence of any marked tendency to calcareous deposits in the children, as compared with adults, this tendency being, as a general rule, in proportion to the age of the patient, in health as well as in disease. Out of 33 cases in adults of McCrae's series, 13 showed general gladular enlargement, and 4 enlargement of some of the lymphatic glands, and in about 10 per cent of the cases in which splenic enlargement was looked for was it found. This indicates that lymphatic enlargement

[1] Twentieth Century Practice of Medicine, vol. II.

[2] E. Weill—Medicine Infantile, p. 166.

[3] Jas. M. French—Reference Handbook of the Medical Sciences.

[4] Journal of the American Medical Association, vol. XLII, Nos. 1, 2 and 3, Jan. 2, 9 and 16, 1904.

[5] Medico-Chirurgical Transactions, vol. 80, 1897.

is a much commoner concomitant of the disease than is usually supposed, but on account of failure to examine the cases thoroughly, it is overlooked. One of the most significant features of these cases is that they both occurred in the same family. This family predisposition, however, is a condition that has frequently been observed. The striking similarity of the two cases is very remarkable, both in the general manifestations of the disease and its complications, and in the deplorable condition to which they were reduced for some years before their death, as a result of the almost universal joint involvement.

I have photographs of only one of the cases, but for purposes of description they would do for both, since the pathological conditions were so remarkably alike.

The trophic manifestations, for such we must consider them, in the feet, though of a very unusual type, were practically the same in both cases, though in Case I they lasted longer and were more severe, the onychia going on eventually to a complete destruction of all the toe nails. The dermatitis was of an unusually severe type. I have found reference to only one case[6] where it went on to ulceration and crust formation, though in both of these such was the case. The more commonly met with trophic skin manifestations are local œdema and sweating, erthythema and herpes. Another very unusual feature of each case was the eye involvement, in one case it was the right eye, in the other the left, but in both cases it came on in exactly the same way and with the same results, practically total blindness in the affected eye, and also in each absence of any involvement of the other eye. The exact nature of the original condition it is impossible to state, but it was doubtless originated as some form of iritis; the history is not unlike that of a tubercular iritis, but that is such a rare condition that it is hardly likely that such was the case.

[6] Hadden—Clinical Society Transactions; London, 1885; XVIII, p. 1.

Most authors are silent on the subject of ocular complications of arthritis deformans, though Howard[7] states that among the frequent complications may be mentioned some diseases of the eye, chiefly iritis, which is apt to be relapsing," and Garrod states briefly that sclerotitis, iritis and conjunitivitis have been met with, but goes on to state that it is a significant fact that a certain number of the reported cases have later proved to be gonorrheal rheumatism, of which these affections of the eye are not uncommon manifestations. In a very recent article on gonorrheal rheumatism, Rogers[8] reports a very interesting case, which clinically cannot be distinguished from arthritis deformans of a severe type in which as a result of a double iritis practically total blindness had resulted. He reports it as a case of polyarticular gonorrheal rheumatism from the fact that the first symptoms made their appearance during the later stages of an acute attack of gonorrhea. Though this is very good presumptive evidence in favor of this diagnosis, it seems quite possible that the association of these two conditions may have been a mere coincidence, and not one the result of the other, and the same may be said with even greater force of another case he reports in the same article.

I do not intend going into a detailed account of the symptoms of pathology of arthritis deformans, but I do want to review briefly the chief theories as to its causation. Like all diseases of whose cause we know very little, there have been numerous theories as to its origin. Up to the time of Heberden, it was not differentiated from gout and rheumatism but was considered a result of the combined action of the two diseases, hence the old name, "Rheumatic Gout," which, being misleading and confusing, ought to be no longer employed, though we still hear it used by the laity, and unfortunately by members of the medical profession too, some-

[7] J. Palmer Howard, of Montreal, in Papper's System of Medicine.

[8] Journal of the American Medical Association, vol. XLVI, No. 4, January 27, 1906.

times. This theory of the causation of arthritis deformans does not give us any knowledge concerning the true nature of the disease, though it was held for a long time and is still adhered to by some few writers on the subject. The idea that there is what we speak of as an arthritic diathesis is in keeping with this theory, that is, that in certain people and families there is some inherent abnormal susceptibility of the joints, which makes them more liable to involvement under certain pathological conditions than is normally the case; as a neuropathic tendency in a family will manifest itself in one member in extreme nervousness, in another in hysteria and another in eplipesy, so what we may call an arthropathic tendency will manifest itself in one as rheumatism, in another gout and in a third as arthritis deformans. That there is possibly a certain amount of truth in this arthritic theory is borne out by the fact that in a very large number of cases of arthritis deformans there is a family history of gout or rheumatism. Out of Garrod's 500 cases 216 gave a family history of some joint trouble, either gout, rheumatism or arthritis deformans, and in the McCrae series the proportion was about the same. Nevertheless this theory, as such, of the causation of the disease, has been generally abandoned, and most authorities at the present time are inclined to attribute to it either a nervous or an infectious origin. These two theories are, however, not supported by very much accurate knowledge, but are, up to the present time, the most probable theories that we have, and by one or the other most of the symptoms and conditions can be more or less satisfactorily explained.

With regard to the infectious theory the idea is that the disease depends upon the action of either a specific microorganism or one of several organisms. Of course, along with most other diseases of whose ætiology we know little or nothing, one or more specific organisms have been described as a cause. In addition to these specific germs one observer claims

that the micro-organismal is an attenuated culture of staphylococcus pyogenes aureus; another has described a small diplococcus, and others have suggested a tubercular origin for the disease; while, by some, gonorrhea has been considered a cause. The fact that in 30 per cent of the males a history of gonorrhea was given is not surprising, if we admit, as I suppose we are compelled to, that not less than 75 per cent (and this is said to be a low estimate) of men have gonorrhea at some time in their life, remembering also, what is an undoubted fact, that a very great many of the cases considered cured are not cured, the infection very often remaining more or less quiescent for years without giving any marked symptoms. It is quite possible, however, that a certain number of cases, such as those reported by Rogers, referred to above, may be due to a systemic infection by the gonococcus; though this, so far, cannot be said to have been proven.

In a recent article Edsall and Levenson report 18 cases of chronic polyarthritis in which tuberculin was used as an aid to diagnosis; of these 8 gave no reaction whatsoever, 3 a doubtful and 7 a distant reaction. Of these 7, four were clinically undoubtedly cases of arthritis deformans, two chronic rheumatism, and one "stills" type of osteoarthritis. In this last there was a violent local reaction in the joints. Some of the enlarged glands were removed and were found to contain bacilli, but they did not produce tuberculosis, when inoculated into guinea pigs, the bacilli probably being dead. The conclusion of these observers was that the case was one of chronic widespread tuberculosis. They also came to the conclusion, as a result of these studies, that while the effects of tuberculin are inconclusive, they believe their observations indicate that in a certain number of cases the teaching of Poncet that chronic polyarthritis is at times tuberculous is correct. On the other hand McCrae used tuberculin in the spondylitic cases of his series and found it very reliable, and considers it a great aid to diagnosis in doubtful cases, for he

had no reaction whatsoever in the cases that were clinically arthritis deformans. He is inclined, however, to believe more in the infectious than the nervous theory of the disease, though Osler, from whose clinic his cases are reported, is inclined to set more store by the nervous theory.

One of the chief reasons for the belief in the infectious theory is the fact that not infrequently the disease begins acutely with fever. Another reason given is that it is said in a considerable number of cases, to come on after one of the acute infections, as influenza and gonorrhea. We have already spoken of the possibility of the gonorrheal origin of the disease; with regard to influenza it is not at all improbable that the so-called influenza is nothing but the first acute onset of the arthritis deformans itself, which has not been recognized as such. This also is very likely true of many of the cases which are said to follow an acute attack of rheumatism.

Before leaving the infectious theory it ought to be mentioned that syphilis has been given a place in the list of possible causes, but that it has any direct causative relation whatsoever in the great majority of cases there is very little to show, though it may occasionally produce a chronic polyarthritis.

The nervous theory seeks to explain the manifestations of the disease by considering them the result of either central or peripheral disturbance of the trophic nerves supplying the parts affected. The fact that we can explain the frequently associated dystrophies of the skin, nails and muscles in no other way than as the result of some trophic disturbance speaks in favor of this theory. Very marked muscular atrophy, out of all proportion to the joint involvement, and often coming on long before it could have occurred merely from lack of use, is a very common manifestation of the disease, and can be explained only by the nervous theory. The skin complications already referred to and the subjective symptoms so often present, the numbness, tingling and burning

felt in the diseased limbs, can also be explained only in the same way.

The fact that the joint and skin lesions of some of the spinal scleroses, especially locomotor ataxia and syringomyelia, which are undoubtedly trophic in origin, are anatomically identical with those seen in arthritis deformans, speaks very strongly in favor of a nervous origin for the last named disease. Though a variety of ill-defined skin manifestations may occur in all the above conditions, they are of the same general character; glossy skin, herpes, erythema, local œdema and sweating and onychia being the most common manifestations.

So far the pathological findings have not given us very much definite information with regard to the ætiology of the disease. Neuritis has been found in several cases, but it cannot be proved that it is not secondary; and a few cases have been reported in which atrophy of the anterior horns of the spinal cord with degenerative changes has been demonstrated,[10] but that it is the primary condition we are unable to state.

A recent German observer has come to the conclusion that none of the cases described as arthritis deformans in children are genuine examples of that disease, but he gives them a separate entity which he calls polyarthritis chronica villosa. In this condition the pathological lesions are chiefly confined to the synovial membrane, the articular cartilages showing no destructive changes. This is very similar to the lesions which Still has described, and it is doubtless the same disease; but be that as it may it does not throw any more light on the ætiology of the condition, but if anything, complicates the subject by adding another disease to our list for which we cannot in any way account.

For all these conflicting opinions and theories there can be but one satisfactory explanation, and it is this: That under the condition spoken of clinically, as arthritis deform-

[10] Falli Il Policlinico, Dec., 1894.

ans several different conditions ætiologically and pathologically are commonly included. This is the conclusion at which both Garrod and Still arrived, the latter describing three different conditions distinct clinically and pathologically; from an ætiological standpoint there are probably more.

It is quite possible that some cases are tubercular in origin, some may be gonorrheal, syphilis may be an occasional cause, as also some form of chronic fibrous rheumatism,[5] but in a very large per cent of the cases it is as Osler says in his definition of the disease "of doubtful origin" for which we can find no cause at all, and it is these that are best explained by the neuropathic theory, though this is, of course, like most theories, which Goethe has well called "Cradle songs with which teachers lull their pupils to sleep," no real explanation, for it presupposes some ulterior cause which brings about the nervous disturbance, and of this of course we know nothing; the theory itself being a confession of our ignorance on the subject. With regard to the exact nature of the cause of the two cases reported it is impossible to state anything very positively. We can safely exclude gonorrhea and syphilis, and the probability of a tubercular origin seems very remote. The association with chorea in Case I might suggest a rheumatic diathesis as a determining factor, but this is purely problematical and very unlikely. On the other hand the osteophyte production (Case I) and the trophic manifestations would naturally lead us to class them as cases of genuine arthritis deformans, of the true cause of which, up to the present time, as already stated, we know very little.

Since arthritis deformans in itself is not a fatal disease, cases scarcely ever come to autopsy till the late stages, when it is impossible to state what changes found are primary and what secondary, and this fact makes any pathological investigation of the disease very unsatisfactory. It is likely, however, that before so very long, with our greatly improved methods of study in bacteriology and microscopic anatomy,

we shall know more about it than we do at present. In exactly what direction this knowledge is going to be it is impossible to predict with any certainty. It seems very likely that a larger number of cases than we at present imagine will prove to be of tubercular origin, though this is to a great extent conjectural. The two generally accepted theories with regard to the cause of the disease, which are commonly considered antagonistic, it seems to me, may both be more or less correct, the one being really complementary to the other; that is, a toxæmia is brought about, the result of some infection, specific or otherwise, and as a consequence, the result possibly of some selective property, some organic change is produced in the nervous system probably centrally, which in its turn, on account of some trophic disturbance, produces the ordinary lesions of arthritis deformans, which would then be truly of nervous origin, and thus the two conflicting theories would be reconciled. This, of course, would apply to cases of arthritis deformans only, and not to the various other conditions that have been included under that head. Such a double cause is usually accepted as an explanation of the conditions found in anterior poliomyelitis, and it seems likely that a somewhat similar double explanation of arthritis deformans may some day bring us nearer the truth.

REFERENCES.

[9] American Journal of Medical Sciences, Dec., 1903.

[11] Schuller—Berlin, Clinische Wochenschrift, 1900, XXXVI.

See Reference Handbook Medical Sciences, p. 548.

*TUBERCULAR DERMATOSES—COMPARATIVE STUDIES WITH PREFACE ON THE UNDERLYING CAUSES OF TUBERCULOSIS.

BY PAUL PAQUIN, M.D , ASHEVILLE, N. C.

As a preface to this paper I will begin by quoting presentments of my own to medical bodies in the past:

"Modern science teaches that infectious and constitutional diseases generally are the result of poisonings and their consequences by toxic products generated or introduced in the system: (a) by the toxins of micro-organisms in the tissues or blood; (b) by products of microbes, i. e., ptomaines, evolved from food before or after reaching the alimentary canal; (c) from nocive substances, leucomaines, formed by the cells constituting the structure of the body itself and failing of proper elimination. From these premises we are confronted with this proposition in regard to tubercular infections: Why so many kinds of it in intensity, location, lesions, results and complications? Because, as suggested by Hericourt, infections of the kind are possible only on account of disorders of nutrition whereby metabolism is "either retarded, or accelerated, or perverted," and vary in degree and leave different organs with various degrees of lowered resistance.

But why should the cells maintain their equilibrium of metabolism to-day and fail to-morrow This question brings up the controlling force of the organization, to-wit, the nervous system. It is this system which presides over the functions of nutrition, the production of heat, the repair of damages, the generation of new cells, the glandular secretions, the elimination of waste matters and poisons, the various defensive properties existing in the serum, the phagocytes, the

*It was a matter of much regret that circumstances made it impracticable to secure proper illustrations for this paper. Dr. Paquin's demonstrations at the meeting were very instructive.

alexins, etc. Composed of the most sensitive and intelligent cells of the marvelous aggregation which in their union constitute the human structure and form, it suffers first and most, and becomes weakened if not incompetent by the effects of poisons in its midst.

Then the organs fail more or less in their duties. It is reasonable to say, therefore, that, after all, diseases due to toxic products occur because the nervous system becomes incompetent to maintain proper nutrition and elimination. This is the chief underlying cause of consumption in any form.

We must proceed, however, in the study of tuberculosis, its causes and its numerous forms of manifestation, including dermatoses, with the understanding that there is no straight or clear cut line of demarcation between health and disease; that instead, there is a tapering, dissolving margin from the former to the latter, often with so slight a decline, indeed, as to give absolutely no warning whatever that health is slowly sliding into the realm of ill health.

Under the general title of skin tuberculosis, called erroneously sometimes, "cutaneous consumption," should be included all cutaneous lesions due to the presence of the bacillus of Koch. Some authorities would include also, skin lesions, which are directly connected with existing tubercular infections, elsewhere in the system of the patient, and such other irregular and unusual manifestations in the skin as can not reasonably be attributed to any other cause than tuberculosis itself or its bacterial complications.

It was not very many years ago that papilloma, anatomic warts, scrofuloderma, lupus vulgaris, etc., were considered under different heads. Now we know that they are different tubercular manifestations or processes, due to the same germ, modified only by the localization of infection, tissue resistance, condition of the patient, modification of the germ's infectiousness, etc., etc.

From the most reliable sources we learn that usually external tuberculosis results from direct local infection and rarely from migration from within. Yet there are those who claim the reverse, perhaps because internal tuberculosis and external exhibitions of local infection may be seen simultaneously, or may follow each other. From the clinical point of view, skin tuberculosis may be listed under four heads: Lupus Vulgaris, Tuberculosis Ulcerosa, Tuberculosis Dessiminata, Tuberculosis Verrucosa, Scrofuloderma.

I will first describe lupus vulgaris to a certain point, but will not attempt to describe the different types fully. Instead, I will show various illustrations for your consideration. Each picture, however poorly presented it may be, I beg to say is without question authoritative (the names of the authorities appearing at the foot of the paper). In order, however, to form a fair idea of differentiation between tubercular skin diseases and others seemingly of the same nature, it is well to classify to some extent. So, let us for the moment, follow the scientific and undoubtedly reliable classification elaborated by Rokitansky and Hebra, based on physiologic and pathologic lines well established. This classification is as follows: Hyperemias, inflammations, hemorrhages, hypertrophies, atrophies, new growths, neuroses, appendage lesions and parasitic skin troubles. In this classification, tuberculosis like syphilis, cancer and various skin tumors, appear in the column of *new growths.*

Lupus vulgaris is the most serious form of external tuberculosis. It is relatively frequent and it always produces severe changes and destruction of tissue unless arrested early. The initial nodule first appears as a "brown or brownish-red spot, more or less translucent or waxy, which becomes pale yellow on pressure with glass." It lies in the true skin, though it may involve subcutaneous tissues secondarily. The lesion is comparatively soft and readily penetrated by a probe

firmly thrust into it. The nodules may multiply and by coalescence form slight prominences. These develop outwardly. At a certain stage they will either disappear by "fatty degeneration and by absorption with some exfoliation, or may develop into ulcers, which are generally sharply demarcated, but are sometimes undetermined." In the illustrations you will see these features, and doubtless will readily recognize them if I am fortunate enough to succeed in bringing the lesions and colors on the screen.

The first four pictures I show you are all different manifestations of lupus vulgaris. You will notice little to give you indications of the true pathology in these dark photos, so we will pass on rapidly to the colored illustrations.

Serial Fig. 5.—Lupus erythematosus. This disease originates in "indeterminate red papules," which develop by peripheral extension, forming patches with scaly margins of bright red color. It has been confounded with lupus vulgaris, which is known to be due to the tubercular bacillus; also with sycosis (barber's itch), a picture of which you see in this plate. It is not proven that this form of lupus is tubercular, but efforts have been made to demonstrate that it arises from tubercular toxin. It may affect the face, ears, scalp and bearded parts, but rarely does it appear on the extremities. The bright red color can be made to disappear by pressure.

Fig. 6.—Sycosis is not papular but postulous and nodular, usually scabby, the nodules being penetrated by hairs. Nor is it bright red. After a time the lesions coalesce so that only at the margins can the disease be readily recognized. This affection, due to pyogenetic cocci, has been mistaken sometimes for certain phases of lupus vulgaris.

Fig. 7.—Lupus vulgaris, the nature of which has already been described. You see in this colored plate a fairly good picture of an extensive macular type of infection of the skin of the face. The brownish, red spots on the right cheek,

which show progressive extension in that direction, appear in the characteristic kind, which might be changed to a pale yellowish tint by pressure with glass or lens. On the other side you see coalesced nodule.

Fig. 8.—Presents a form of lupus vulgaris plus a cutaneous horn—a benign new complicating growth of epithelial origin. This picture shows resemblance to lupus erythematosus, as shown a moment ago, in that it is more pink in color than the ordinary, and shows whitish, scaly spots. This pink blush, however, on pressure, does not wholly disappear as in lupus erythematosus, but leaves a yellowish tint.

Fig. 9.—Lupus vulgaris hypertrophicus, showing marked new growths and alteration of the skin of the fingers. The hypertrophus is due to excessive bourgeonning, and should not be confounded with warty growths.

Fig. 10.—General facial nodular form of lupus vulgaris complicated with epithelioma. Such a secondary malignant growth occurs sometimes in old cases of lupus vulgaris.

Fig. 11.—Lupus vulgaris serpiginosus, a form of lupus vulgaris in which ulceration occurs. These reddish or brownish ulcers are usually vigorously granular and bleed very easily. They heal from the center while extending at the edges.

Fig. 12.—Syphilis ulcero-serpiginosa, sometimes confounded with tubercular ulceration. This picture shows broken down nodules. They usually begin to heal in the center, while ulceration goes on at the margins as in lupus serpiginosus. Kidney-shaped lesions typical of syphilis often result.

Fig. 13.—Lupus vulgaris with consecutive elephantiasis. This complication results from inflammation of afferent lymph channels, due to erysipelas, which is not an uncommon complication of lupus vulgaris. The tubercular origin of this complicated condition is often very difficult to establish until after the healing process has begun.

Fig. 14.—Pemphigus syphiliticus shows a form of development of heriditary syphilis which begins with blebs that soon break, become hemorrhagic and then ulcerous. In the ulcerative stage if limbs are infiltrated this affection has been mistaken for tubercular ulcers with elephantiasis.

Fig. 15.—Lupus vulgaris verrucosus with lymphatic involvement. This is a kind in which lymphatics become involved in the process and cold abscess results. The so-called scrofuloderma which you see on the back of the hand. The tubercle bacilli in this instance probably migrated from the verrucous lesion on the finger.

Fig. 16.—A local tubercular wart followed by necrosis of the skin. The anatomist tubercular wart, so-called.

Fig. 17.—Lichen scrophulosorum. This is a miliary papulous tubercular infection sometimes occurring on the trunk and occasionally on the limbs of those suffering from skin, bone or gland tuberculosis. "They occur in numerous yellowish-red, acuminate small papules, sometimes grouped; sometimes scattered indiscriminately." The disease is due to bicilli of mild virulence.

Fig. 18.—Erythema induratum scrophulosorum, a form of skin tuberculosis occurring in the young scrofulo-tubercular, chiefly females. It is more common than is generally suspected. They appear on the legs sometimes, and causing neither pain or itching, often go by default. It becomes nodular, then ulcerates, and in healing leaves dark pigmented cicatrices. From childhood it may persist and become chronic. While tubercle bacilli have not yet been demonstrated in this affection, the highest authorities concede it to be closely connected with tuberculosis.

Fig. 19.—Scrophuloderma (cold abscess). Painless semiglobular nodules of the subcutaneous lymphatics, due to the tubercular infection. They attach themselves to the skin from beneath and break down, discharging a thin purulent matter.

Fig. 20.—Tuberculide. This is a name applied with doubtful grounds to several skin affections supposed to be due to tubercular toxin. There seems to be no doubt, however, according to Bazin and others in the list of authorities, that the erythematous induration, which this picture shows, is a veritable tubercular development. In such a case, "sharply defined nodules develop in the subcutaneous tissue and over them papules and vesicles form." They may heal by absorption or "necrotic changes," resulting in "sharply defined white scars." They occur generally on the back of the hands, the forearm and the ears. I have seen them during the existence of pulmonary phthisis.

Fig. 21.—Chloæsma. This affection is often seen in cases of pulmonary tuberculosis. Some authors have attributed it to internal tubercular processes, but the bacillus of Koch has not been formed in the skin lesion. This development is pigmentary—the kind of bronzing of Addison's disease. It is claimed, however, that this pigmentation may occur without tubercular infection of the suprarenal capsules. I have seen it frequently in cases of early, as well as more advanced, pulmonary consumption.

In closing, let me say one word as to treatment. It seems that both the X-ray and Finsen light offer some encouragement to those treating lupus and certain other dermatoses. I show you here three pictures. One the picture of a woman, exhibiting fungoid mycosis before treatment, and the other the same face after radiotherapy applied for some time at different points.

The next picture shows Belot's localizer of the X-ray in a vertical position. The patient in the picture is the one just seen, appearing now under treatment.

I also show you pictures of Finsen's apperatuses to Bibliography, Jacobi, Pringle, Stetwoyon, Shoemaker, Neisser, Kroner, Bavetta, Bazin, Duhring.

CHOLELITHIASIS.

BY H. F. LONG, M.D., STATESVILLE, N. C.

Mr. President and Gentlemen:

In taking up at this time the subject of cholelithiasis I am fully aware that I have nothing to offer in the way of enlightenment to the specialist in gall-bladder surgery, but my own experience has demonstrated that it is not the specialist alone who is confronted with these problems. Within the space of a few months I have been called upon to deal with a series of ten cases, a fact which is significant of the prevalence of this disorder under circumstances which must be met by that individual from whom the public demand so much, the general practitioner. To these, my fellow practitioners, I trust that a brief study of these cases may not be without interest.

The modern era of gall-bladder surgery dates back less than fifteen years. During this period improvements in technique, a more definite fixing of the time to operate, and a more enlightened management of cases have contributed to a progressive reduction of the mortality until it compares favorably with that of any other abdominal operation.

As a result of this, from being considered a subject for medical treatment, cholelithiasis has been completely transferred to the province of surgery.

As to etiology, Naunyn laid down the rule that the formation of gall stones depended upon two factors—stagnation of bile and infection. The recent researches of Beer, however, seem to imply that these conditions alone are not sufficient, but that in addition a deranged hepatic metabolism—in other words, a diathesis—is a prerequisite for the development of the disease. This theory of the etiology is borne out by the following cases:

Case 1.—Mrs. P., 50 years of age. She was the mother of thirteen children, and up to about a year ago had always been healthy, except for a severe attack of typhoid fever ten years previous. A year ago she was seized with pain, first in the right shoulder, then in the stomach, and alternating between the two for two weeks. Similar attacks followed at intervals of two months until two weeks before the operation. In each attack there was a decided jaundice which cleared up after the attack subsided. On each occasion she was given the usual remedies, morphine, sodium, phosphate, olive oil, etc. The patient was in good condition for operation. Tenderness was present at the point of the ninth rib; on deep pressure tumor could be made out, but not distinctly. The area of liver dullness was increased. Incision was made, beginning near the ninth costal cartilage of the right side and running vertically downward through the outer border of the rectus muscle. The gall-bladder was easily found and brought into the wound. As there was no fluid in it, it was at once incised, and 106 hard facetted gall stones removed. Besides these, three soft stones which were crowded into the cystic duct were removed. I had no difficulty in working them back into the gall-bladder, and removed them much crushed. The 106 others I have here in this bottle, which I shall be glad to have you examine. The gall-bladder was next sutured to the peritoneum, a drainage tube pushed to the bottom of the gall-bladder and left in the sack four days. Bile discharged for eight days, and then ceased. The woman left the hospital on the twenty-first day, and has since been in good health.

Case 2.—Mrs. ——, 40 years of age. She was the mother of seven children, the youngest being five months old. She had suffered for eleven years from indigestion following a long attack of typhoid fever, and had taken much medicine for the relief of this condition, even beginning the use of morphine tablets on her own account whenever she felt the

approach of the attacks, which were frequent and severe. The last one, occurring December 12, 1905, was so prolonged and painful that the family doctor was called. Examination discovered a tumor in the upper abdomen. I saw her that night at 12 o'clock. At this time her whole upper right side was rigid and tender. Her pulse was 160, temperature 104, respiration short and quick, facial expression anxious. I advised the usual treatment in acute intraabdominal troubles. She improved, and on December 14 was brought to my hospital. She stood the trip well, and when brought in had a temperature of 100 and a pulse of 96. Operation was delayed four days, at which time her pulse and temperature were normal. The usual incision was made, and a dense tangle of adhesions encountered. These were separated, and the gall-bladder well exposed and pulled up, gauze strips being well packed around and below it to prevent the soiling of the peritoneum. A trocar was pushed into the gall-bladder and about three ounces of fluid was aspirated. The fluid was viscid mucus, dark fluctuant bile, and serum. The gall-bladder was then opened and three large stones, which I have here in this bottle, were removed. The gall-bladder was black and gangrenous, its walls much thickened, and the whole viscus much enlarged. It was cut away from below upward until the cystic duct was reached and ligated, thus finishing its entire removal A drainage tube was anchored at the stump of the cystic duct, another, a long tube of split rubber with gauze running through it, was dropped into the subhepatic space, and both left in. The wound was closed in the usual way, and on the fifth day the drains were removed. The patient made a good recovery. It is noticeable that although this was a much more serious case than No. 1, the gall-bladder being found in a much worse condition and the patient having suffered for eleven years, yet there was not, at any time, the slightest jaundice.

Case 3.—A woman fifty years of age. She had always

been healthy except for a severe attack of measles followed by bilious trouble. Her condition on examination was found to be practically normal. She had suffered for five or six years with bilious colic, "bad liver," as she expressed it. She had never been badly jaundiced, but said that her skin would turn yellow when she had an attack. Eight months before, the colic became of daily occurrence. The pain was always located in the right shoulder. In this case the abdominal walls were very thin, and the gall-bladder could be felt as a hard mass at the end of the ninth costal cartilage. The usual incision was made and the gall-bladder at once presented. It was pulled up, opened, and 235 stones removed. It contained no fluid whatever. Further search discovered a stone in the common duct, which was opened, the stone removed and a small fishtail drainage tube anchored in the incision in the duct. Another drainage tube was anchored in the gall-bladder, and still another split tube carrying gauze was passed to the bottom of the sub-hepatic space and brought out with the two others at the upper angle of the incision. Gauze was packed around all and the wound closed to the gauze. In twenty-four hours bile began to discharge freely, and continued to do so for a week, at the end of which time the tubes were taken out. All discharge ceased on the fourteenth day, and the patient went home, much pleased with the relief obtained.

Case 4.—A woman, 65 years of age. She had had typhoid fever twenty-five years ago, and for twenty years had suffered from frequent attacks of colic. For three months she had not been free from pain in the upper right side except when under the influence of laudanum. The patient was much jaundiced, and examination revealed a tumor in the upper right quadrant. The usual incision was made and the gall-bladder presented, with no adhesions about it. It contained no fluid; thirteen large stones were removed. The gall-bladder was then stitched to the peritoneum, the usual drainage

employed and the incision closed in the usual way. The patient left the hospital on the twenty-first day and has been in good health since.

Case 5.—Mrs. ——, 26 years of age. The patient was the mother of four children. She had had the usual diseases of childhood, also typhoid fever when about full grown. The first attack of colic occurred two years ago and lasted seven hours. Since then she has had attacks every few weeks, and the interim between attacks was marked by indigestion, distention, etc. Her stools remained natural in color, but constipation was constant. At no time was there any evidence of jaundice. Of late the attacks had become so severe that her physician sent her to me for operation. The usual incision was made, the gall-bladder brought up and opened. At the distal end a walled off abscess was found, which contained about one ounce of pus. In the gall-bladder proper was a large stone, not colored like the others, perfectly round and presenting no facet. I have it here in this bottle. The gall-bladder was stitched to the peritoneum and the usual drainage employed. The drainage ceased on the tenth day and the woman left the hospital on the fifteenth.

Case 6.—Mrs. ——, 58 years of age. She was the mother of two children, the youngest 24 years old. She gave a history of colic and indigestion for ten years. She had had typhoid fever when young. Her whole body was decidedly safron colored. The usual incision was made, and the gall-bladder found to be so thickened that its cavity was entirely obliterated. I began and dissected it out at once. I could feel a large stone in the common duct, near the ampula of Vater. I attempted to push this along, but it mashed like putty under pressure. I enlarged my incision upward and inward until I could easily palpate and inspect the common duct. I then opened the duct and began with a scoop to clear it out. In this I encountered some difficulty, as it was packed with putty-like stuff and soft stones. When I thought

I had it clear, I inserted a fishtail tube in the opening in the duct and anchored it there, anchored another split tube at the stump of the gall-bladder, and dropped still another in the sub-hepatic space. The patient did not do well until the third day, when normal bile began to flow and she improved. Quantities of gravel bile sand discharged for two weeks. The patient's health improved, but she still has a biliary fistula which discharges intermittently.

Case 7.—Mrs. ——, 32 years of age. The patient was the mother of two children. Five years ago she had an attack of measles, followed by peritonitis and diarrhea. For four years she had suffered from dyspepsia, gastralgia, etc. Two years ago she was examined by a surgeon, who discovered a loose kidney, which he anchored, also removing the appendix. For two months improvement was noticed, but after that her colic returned. I saw her three months ago, and believing that her distress came from the gall-bladder, advised operation, to which she consented. The usual incision was made and the gall-bladder easily found. It was soft and distended with black fluid, resembling tar, too thick to aspirate. The gall-bladder was therefore opened and cleared out with gauze sponges, stitched to the peritoneum and drained in the usual manner. The patient made a good recovery, has been able to eat liberally of any diet she likes and has had no intimation of colic since the operation.

Case 8.—A man, 23 years of age. He had suffered with pain in the abdomen near McBurney's point and with "stomach cramps" for five years. For six days before being brought in he had been suffering intense abdominal pain, and although there was no acute pain at this time, he was comfortable only when under the influence of morphine. The usual incision was made, discovering many firm adhesions, from which the gall-bladder had to be dug out. The appendix was pulled up into the incision, and as it was found looped upon itself, was removed. The gall-bladder was very much in-

flamed and diseased, and contained several ounces of black, tar-like fluid. Owing to the adhesions and to the fact that the liver was slightly movable, I could not attach the gall-bladder to the peritoneum. I therefore anchored a tube in the gall-bladder and let it drop back, placing gauze tucks all around the tube and closing the incision up to the gauze. In twenty-four hours bile was being discharged, and the patient improved steadily to recovery.

Case 9.—Mrs. ——, 32 years of age. The patient was the mother of three children. She gave a history of typhoid fever, colic beginning a year after the fever and extending over a period of eight years. Attacks became more and more frequent until she sought relief in operation. Cholecystostomy was performed and eight gall stones removed. The fistula which followed discharged for four months. Since that time the patient has been in good health.

Case 10.—Mrs. ——, 48 years of age. The patient was the mother of nine children. For two years she had been having severe stomach cramps, pain in the right hypochondrium passing through to the right shoulder. Her attending physician made a diagnosis of gall stone disease, and she was sent to me for operation. The usual incision was made. There were no adhesions and no fluid in the gall-bladder, which was filled, however, with small stones, 97 in number, which I show you here. Bile began to flow before the patient was taken off the table, and cotinued for three days. After the effects of the anesthetic were gone the patient showed decided delirium, which increased until it became wild and maniacal, and continued until she died on the third day.

From the above cases it will be seen:

(1) That there was present in every case a history of intestinal infection of some description, and that the infected gall-bladder dated back to this infection.

(2) That the degree of pain experienced has no relation to the number of stones present. (As shown by cases 3 and 5.)

(3) That a colecystitis in which no stones exist, but in which the gall-bladder contains a viscid flued too thick to be forced through the duct will occasion as much pain and as much toxemia as though the gall-bladder were full of stones.

(4) That among the intestinal infections previously alluded to chronic appendicitis is particularly liable to be associated with infection of the gall-bladder, appendicitis, loose kidney and diseases of gall-bladder frequently co-existing.

(5) That cholecystectomy should not be done unless there is evidence that the gall-bladder is itself diseased.

(6) That there is a large percentage of cases in which jaundice does not occur, even though the stone be present in the common duct.

(7) That the surgeon who waits for the graver "classic" symptoms, such as jaundice, clay-colored stools, enlarged liver, etc., which may never appear, makes a serious mistake and will miss the opportunity of relieving many patients who suffer from disease of the gall-bladder.

(8) That all cases, unless indications for immediate operative interference are present, should be tided over and brought to an interim operation.

PERNICIOUS VOMITING OF PREGNANCY.

BY J. W. WOOD, M.D., SHELBY, N. C.

The dividing line between the physiological vomiting of pregnancy, which occurs in the majority of cases, and the pernicious form with its attendant mortality of between 30 and 60 per cent is not definitely fixed. Indeed, the matter seems to be more of a matter of degree than of variance in disorder. No diagnostician, when first a pregnant woman begins to vomit, can say positively that it will prove to be merely physiological, or will develop into a pathological condition. Even in cases where the pathological condition is undisputed, authorities differ as to the etiology of the affection. This is not strange when we consider that any explanation involves a demonstration of the condition and stability of the nerve centers, and also of the degree and cause of the periphera irritation. Some declare the condition to be the result of the reflex stomachic irritation, consequent upon the excitability of the sympathetics induced by the enlarging uterus walls. Others are emphatic in their assertion that an anto-toxemia underlies the severe symptoms, and cite the beneficial results which often follow treatment directed towards a betterment of such conditions as proof. The basis of diagnosis, we believe, must rest upon a determination as to whether the vomiting intermediately related is entirely consequent upon the pregnant condition or whether the vomiting is independent of the pregnant condition or but slightly related to it.

Since, it is not possible, clinically, to separate vomiting in the pregnant state into two varieties, much of the treatment which burdens the text-books may be considered useless, because most of it is specifically commended for one or the other variety. The whole object of any and all "Methods of Treatment" may be summed into the following few words: Ex-

clude existence of complications; remove sources of peripheral irritation; lessen irritability of the nerve centers. Such a view of the matter must impress upon anyone the comparative uselessness of many drugs and methods advised.

No routine treatment can be advised for any case. Every attempt at alleviation must consider the inclusion of dietetic, hygienic, medical and surgical measures. It is very important, in view of the high mortality attending severe cases, that the surgical features are not kept too long in the background. The life of the mother, by all values estimated by man, is of more importance than the life of the fetus; yet if operative interference be too long delayed, the maternal life is jeopardized and both lives may pay forfeit to the temporizing.

The dietetic treatment includes the exclusion of the unsuitable articles of food, and, in some cases, rectal alimentation. An absolute diet, permitting water only, and covering a period of one to seven days, at the outset of any severe case, may do much good.

Rectal feeding is seldom well borne, often provoking a severe diarrhœa, which is more exhausting than any deprivation of food could be. In the milder case, benefit often follows a light lunch of a cracker, toast and tea or milk just after wakening and before raising from the pillow, the patient lying flat on the back for 15 to 20 minutes afterwards before making any effort to rise.

The hygienic efforts include absolute cleanliness at all times, lavage of the bowels and in occasional cases, of the stomach, a mild electrical current, applied over the neck and epigastrium and in the worst cases, confinement to bed in a quiet and darkened room. It is a peculiar fact that moral control over the patient has often a salubrious effect; the emphatic assertion that a certain medicine will stop the vomiting often resulting in a complete cessation.

Even a vaginal examination, accompanied by elaborate preparations and precautions, is in many cases sufficient to

produce a decided beneficial effect on the symptoms. Due attention is paid, of course, to the emunctories.

In the way of medicinal treatment it is enough to say that drugs, except those which aid in maintaining perfect functional activity of the skin, kidneys and bowels, or which aid in elimination or lessening of irritation, are frequently useless.

Spraying the fauces with a weak cocaine solution before food often prevents the vomiting in mild cases. As a rule the unexperienced practician addresses his efforts along the line of drug therapy to the stomach, and this is "beginning at the wrong end of the trouble—a fact attested by the interminable lists of drugs given in the books and handed down through force of habit."

If the irritation in the stomach proceeds to development; if a true gastric catarrh, the drug stricture is removed, for it is then necessary to treat the catarrhal condition. Any complication, as for instance, nephritis, may at once render the use of drugs imperative; it is the uncomplicated, severe cases which seldom close well under drugs alone.

The surgical treatment, ordinarily, is understood to refer to the induction of abortion, but we think it preferable to include all manual intervention. This would include typical applications to diseased cervix or os uteri; depletion of nabothian cysts by puncture, insertion of vaginal tampons when necessary, replacing of a displaced return, and when necessary the insertion of a pessary to maintain the proper position, and in severe cases dilation of the cervix, though it is to be remembered that this often results in the induction of an abortion. Finally, if emaciation becomes extreme, or if feeble pulse indicates flagging heart power, or if epigastric pain is not reliable, or if the vomited matter becomes "coffee ground" in character, and if the eliminating of urea sinks to a low ebb then abortion must be induced to save the mother's life.

Abortion should never be undertaken without a consultation of several brothers in practice and should be delayed until the symptoms above outlined warn that no further temporizing will be tolerated by an exhausted system, and yet it must be undertaken while the mother possesses a sufficient reserve strength and vitality to stand the operation itself and to rally afterwards. Probably few other emergencies arise in practice where cooler heads and more mature judgment are in such great demand.

NATIONAL RECOGNITION OF THE MEDICAL PROFESSION.

BY OLIVER HICKS, M.D., CAROLEEN, N. C.

The success that has attended the efforts of the medical fraternity in the way of scientific research, hygiene and sanitation, during the last few decades, gives assurance of the good we could accomplish if we had the authority and the facilities to prosecute the work as it should be done. Past records show that we are worthy of confidence; of all the scoundrels that have been given publicity, especially those of recent years, no organization of physicians, and no individual physicians, holding positions of trust or honor, have been guilty of crime, nor has there been cause given for the muckrake to plunge its ravenous fangs into our ranks.

In order to be understood fully it is necessary to refer to a few of the evils that fasten disease upon man—often for life.

Damaging errors and violations of the laws of health begin in the puerperal chamber, when the tender, helpless, innocent takes his earliest breath, and injuries are inflicted that extend through infancy, childhood and to maturity, when partly by chance and in part by inherent vigor he breaks loose from the inherited errors, mysticisms and superstitions of his attendants that have haunted his infancy and childhood.

It would seem an easy task to teach intelligent women that healthy infants at birth are not "perishing to death" or freezing, and that their little stomach will not receive and retain a pint of catnip tea, or a wad of fat bacon without serious consequences—the one to do what nature failed in, as they suppose, and the other to cut the phlegm from its throat.

After repeated efforts I have not succeeded in convincing one individual that God had provided in the maternal bosom the nourishment needed, and that the rattle in the throat is

caused not by phlegm, but by a very necessary mucous which he will swallow when given the breast. Many cases of gastro-intestinal, hepatic, renal and other affections of long duration have their origin in the errors of feeding and clothing the infant. It is worse than useless to tell mothers and attendants that infants and children generate more animal heat in proportion to weight than older persons. Its "freezing" seems to be a term enthroned about the little victim. Authority alone can penetrate this cordon of errors.

To explain to parents the importance of masticating the food, especially in childhood and youth, is almost invariably disregarded, and in many instances ridiculed. If they were made to know of the suffering and damage to health and the constitution that result from bolting the food they would gladly listen to the teaching.

From infancy and childhood we enter the period of adolescence—the most momentous in life, full of conditions and events that may be developed into good or evil, according to the influence brought to bear during that epoch. When girls and boys approach puberty they should be instructed by parents who have been taught by the family physician in regard to the great changes that are approaching. This information should be imparted with the utmost care, delicacy and tact. They should be given rules of conduct as to dress, diet and exercise. Instead they are left either in utter ignorance, or to the care of the ignorant, superstitious and vicious, who are ever ready and anxious to impart their dangerous knowledge and advice. Vast numbers of our youth, especially girls, are ruined for life mentally and physically at this period, and thousands, after years of suffering, go prematurely to the grave.

None but physicians of long and varied clinical experience can form an adequate idea of the awful ravages that the venereal diseases are causing. The statistics are appalling, and as no effort has been made by legislative enactment to

stay its blighting breath, it continues to spread its poluting, death-dealing virus. Scientific methods and treatment will have succeeded in eradicating the disease when, supplemented by legal authority, and the means and facilities for enforcing obedience to instructions, these two, alike insidious, alike potent for evil, and a reproach which the most debased wish to conceal. Their management is often entrusted to ignorant, superstitious quacks, whose false representations and promises cheat the victim of his best chance for cure, and when at last he applies to a physician the frightful results of malpractice are added to the disease. Only organized effort, supported by legal authority, can deal successfully with such an appalling scourge.

That the United States mails and the public press are made the means of disseminating disease is a sad comment upon the wisdom of our national officials; nevertheless it is true. Patent medicines and advertised cures are responsible for a large proportion of the chronic disease among us, apart from the disease they cause; they are both insidious and apparently fascinating swindles, backed as they are by unlimited capital, with nothing to restrain them, their power for evil is enormous.

If our officials were informed in regard to the numberless errors that exist, even with better informed classes, relative to the prevention and cure of disease, sick-room usages, etc., they would confer upon the medical profession the authority and the means to deal with them, to drive from our shores all contagious and infectious diseases, and put a stop to poisoning our people through the mails and public press.

There is but one way to attain that end, and that is to establish at Washington a Department of Public Health, with an accomplished physician as secretary, and a corps of educated physicians to be used at his discretion, to the most remote townships. Turn over to him the medical departments of the army and navy, and with their knowledge and assist-

ance he will be in a position to attack successfully the gigantic evils that are hastening our march towards race suicide.

When it is recalled that many of our great discoveries and much research have been made in the face of strong opposition, and that all we know of comparative anatomy and physiology has been gained behind barred doors, the wonder is that we have accomplished anything.

Now is the time to institute measures for the establishment of this very necessary and important department of the national government, while we have a President who possesses the wisdom, the judgment and courage to aid us.

CLINICAL REPORTS.

(a) Umbilical Fistulae; (b) Two Cesarean Sections.

BY W. H. DIXON, M D., EDWARD, N. C.

The cases which I wish to report to you are of interest both from a medical and surgical standpoint, and besides, both are rare conditions. The maladies I have reference to are umbilical fistulæ and cæsarian section. First as to umbilical fistulæ:

Ida B., white, age 12, has had the usual disease incident to childhood; previous health not good. Was called in to see this patient on my way to see another patient. Went in and found child suffering with malarial fever of rather severe type; gave anti-malarial treatment and went away. Saw her again next day and found a little improvement. I saw her every day until fever had subsided, which was on the tenth day. Two or three days previous to discontinuing my visits I noticed considerable tympanitis present, so much that it caused her great discomfort. I gave her turpentine emulsions and salol. This soon relieved the distention to a great degree. The tympanitis would however return as soon as turpentine was discontinued.

Just as soon as tympanitis set up a rapid emaciation began. Of course she was very much reduced in flesh from the effects of fever—her strength was kept up by judicious administrations of pre-digested foods and stimulants.

Her father called me up over the telephone six days after I had discontinued my visits and told me his child had a "hole" to come in her side. I could not understand from him where the "hole" he had reference to had formed, and thought possibly it was a fistulæ that had formed from the thoracic cavity.

I went to see her in the afternoon, and found an umbilical fistula discharging freely a serous fluid mixed with fecal matter. The odor was of course very disagreeable.

On making an examination of the abdomen found it moderately distended, and by making pressure above and to the left of the umbilicus the discharge could be very much increased; the fecal matter would be in excess of the serous, and just after making pressure the discharge would stop for quite a while; and, by the way, there was no pain whatever from pressure.

At frequent intervals the discharge would completely stop; when this would occur the abdomen would rapidly distend and pain would set in and would only be relieved when the discharge would return.

The fistulæ continued to discharge until death of the child occurred, which happened in about ten days after it began.

The cause of this fistulæ I can't say, but will give one of three reasons or theories which I think would cause such a condition, and one of them was the cause in this case.

Fistulæ, umbilical in character, may be produced by the action of intestinal parasites, or may be due to ulcerations of peyers patches as found in typhoid fever, or due to a lack of resistance in the intestinal wall, as a result of cell death or a failure to replace itself after having been destroyed.

First, as to the worm theory, there are well authenticated cases where worms have perforated healthy intestines and have formed umbilical abscesses. As to this particular case I do not think this theory would apply as we had no abscess formation; there was nothing characteristic about the discharge to indicate an abscess.

I saw the patient two or three hours after the fistulæ had formed, and the discharge then was serious in character with small particles of fecal matter mixed with it.

The fistulæ was first thing noticeable; not even a tumor or any elevation to indicate that an opening was going to form.

There were no worms in discharge at any time, and besides I had given an anthelmintic a few days previous to formation of fistulæ, thinking that the tympanitis might be due to pres-

ence of worms. As to the ulceration of peyer's patches, that are found in typhoid fever, I do not think this could have been the cause for the fistulæ from the fact that child had no fever for ten days previous to the discovery of the fistulæ. There was an elevation of temperature, however, three or four days before she died. The cause I attribute to the formation of the fistulæ was due to a failure or faulty metabolism of the cellular tissue in the makeup of the intestine.

I believe that this condition was brought about by the weakened condition of the heart and resulted in poor circulation in the system, and especially in the intestine, and in this way the destructive condition was greater than the constructive, hence a weakening in the intestinal wall seeking to find the place of least resistance, which happened to be the umbilicus.

Treatment.—Open up abdomen and close the opening in the intestine after the usual methods; as to the abdominal wound I think best to partially close and put in drainage.

I thought to operate in this case, but her condition was so bad that she could not possibly recover; besides, I do not think she would recover from the effects of the anesthesia. I also believe that metabolism was so faulty that repair would not have taken place had I operated. To me this was a most interesting case.

The second condition is that demanding cæsarian operation or cæsarian section. In a practice covering a period of eight years I have had the opportunity of seeing two patients that demanded or rather the operation was indicated. The operation is an old one, and fortunately a rare one; some of the most experienced operators do not see more than 20 or 25 cases in a lifetime. Cæsarian section was in practice in certain primitive tribes and nations in remote antiquity. Until within recent years the operation was avoided except in women that were almost dead, and then only operated upon to save the life of the child. With the improvement in abdomi-

nal surgery and better asepsis the mortality has been reduced very much—almost as low as in a majority of other major operations.

The first case in which the operation was performed on a living woman was in the year of 1491. It is only since 1890 that the operation has come to take its place as a well-recognized surgical procedure, and is indicated where delivery is impossible by natural means and we wish to deliver a living child.

The operation, in brief, is performed by making a vertical incision six or seven inches long in the midline of abdomen over the pregnant uterus. When exposed draw into wound, then incise from above downward and then rapidly remove child and placenta; after which uterus is carefully closed by suturing. Some operators use three layers of sutures and some use only through and through sutures, and carefully approximate the edges of uterus, after which you let uterus fall back into the abdominal cavity. The abdominal wound is brought together in the usual way—by suturing and dressings applied.

I have seen two subjects that required cæsarian section, and will present a report of them as I saw them.

Case 1.—Multipara, age 40, previous health fairly good. Had two instrumental deliveries and one normal delivery. Any further history I have not been able to obtain.

I was called to see this case with Dr. H. M. Bonner. He informed me that the woman had been in labor about 48 hours before I saw her. At the time I first saw her the pains were exceedingly strong and seemed to be almost unbearable, and besides the woman was nearly exhausted.

I made an examination and found several polypoid growths attached to the walls of vagina, extending from uterus to vulva, the size varying from that of a bird's egg to that of a hen's egg. On further examination I found cervix as rigid and as hard as cartilage, and extended up the uterus for a

distance of an inch and a half. Dr. Bonner had tried all of the methods of dilation on this patient before I arrived, and as soon as I could get myself in readiness I tried all of the methods available, but none of them would make perceptible effect on the cervix. It could have been possible for us to incise the cervix in several places up through the cartilaginous hardness and effected dilatation and then remove the growths in the vagina. Taking in consideration the nearly exhausted condition of the woman and the possibility of saving the life of the child we thought the best chance for both was cæsarian section.

We rendered the field of operation surgically clean; placed the woman under anæsthesia by chloroform. We made an incision from the umbilicus nearly to the pubic bone, cutting through the skin muscle, etc., then we lifted the pregnant uterus into wound then made an incision from the fundus to within an inch or two of the cervix, exposing the child. We ligated the cord and cut it in the usual way, afterwards we removed the placenta, blood-clots and membranes then closed the uterus with three tiers of sutures, then let it drop back in its usual place; then the abdominal wound was closed by three tiers of sutures, bandage applied and drainage placed in vagina. I did not see the patient again. Dr. Bonner told me later that the woman developed an enormous tympanitis and died on the third day. The child lived to be six months old and died. By the way, this child did not have any metacarpal bones on one hand and the digits were attached to the ulna and radius; otherwise the child was perfectly formed.

Case No. 2.—Multipara, age 18, weight 140, woman specimen of health. The first child was delivered without any trouble whatever; the pelvis was normal in size.

I was called to see this patient about four o'clock in the morning. Made a vaginal examination, found the "bag of waters" had ruptured and also found presenting one foot and leg, also one hand and arm and part of shoulder, the

uterus was in a state of tonic contraction with increasing muscular contraction.

I tried to push shoulder and hand up and bring foot further down. I failed in this, however, so I tried to force the foot and shoulder up hoping to bring the head down and have it engaged. I failed in this also; I could not move it in any way.

I called in my friend Dr. Bonner to see the case with me. He tried as I had already to reduce the different parts of the child, but failed to move it in any way. We placed her under anæsthesia and tried the usual methods of reducing the presenting parts, but met with the same bad results as before.

We were discussing the advisability of mutilating the child or do a coeliotomy. During this time she was having most violent pains, and in the meantime she was under the influence of chloroform. I made another examination preparatory to removal of child by multilation, as we had decided that was the best method. There were no movements of the child nor any fetal heart sounds, so we concluded that it was dead.

On my subsequent examination, however, I did not find any of the presenting parts, and so informed Dr. Bonner. While we were discussing the best way to get out of our trouble the lower left segment of the uterus and upper margin of vagina had ruptured and let the fetus and placenta into the abdominal cavity. Instead of getting out of trouble we were getting in it.

There was only one course to pursue now and that was to do what we were trying to avoid before. We placed her completely under the anæsthesia—gave this part of the work over to an old negro woman that is always present on such occasions. We quickly rendered the field of operation surgically clean and proceeded to operate. On opening the abdominal cavity we removed child, placenta and clots, after which we

repaired the rent in the vagina and uterus by continuous suturing, then replaced the uterus and closed the abdominal wound by interrupted sutures, using three tiers for this—one each for skin, muscle and peritoneum.

The abdominal wound healed very nicely. In ten days I removed the stitches. We did not have such good results with the wound in vagina and uterus for we had considerable quantities of pus to form. I began the use of hot bichloride douch twice daily and suppuration soon ceased, and in six weeks the woman was able to be up and taking moderate exercise.

This woman has been pregnant three times since I operated on her. The first time she aborted about the third month. There was nothing unusual about this. The second pregnancy occurred about the fifth month, and did not see her until the second day and found her flowing fearfully. On raising up in bed she would faint and complained with severe pain in region of uterus. The third pregnancy was terminated about the sixth month.

I don't believe this woman will ever have another child to term, as I do not believe the uterus will dilate sufficiently to allow the fetus to reach maturity.

The point I wish to make in reporting these cases of cæsarian section is that some of them can be avoided if we could educate our patients to let these ignorant midwives alone.

In my opinion if I had been called when this last case was taken in labor I think the many presenting parts could have been prevented. I could have produced version and the woman could have been delivered in the normal way. On the other hand this old woman will sit around and assure the patient she is getting along all right, and tell her to bear down until it is too late; then they send for the doctor, and sometimes find such as I found in this case, which could have been avoided had the doctor been called in time.

THE TREATMENT OF TUBERCULOSIS.

BY ARTHUR R. GUERARD, M A., M.D., FLAT ROCK, N. C.

The subject of tuberculosis and its treatment is old, but ever new. It has occupied the attention of physicians from the earliest days of medicine. It is still present with us, and will be for years to come, to be written about and discussed and argued, with as much intensity and vigor always as it was in times past. Nor is this to be wondered at, since this most prevalent and fatal of all diseases continues to attack one-third of the human race and destroy one-seventh in the course of a single generation. What treatment have we now for the cure of tuberculosis? What hope have we of being able to check its devastating ravages?

Doubtless many of my hearers well remember what the treatment for consumption amounted to only a comparatively few years ago. Up to the time when Koch discovered the tubercle bacillus, in 1882, and proved that this micro-organism was the essential factor in the production of tuberculosis, the true cause and nature of the disease was unknown. Its treatment was hidden in complete ignorance and darkness. Even within the last decade, owing to the hesitancy of many physicians to accept the germ theory of its origin, advanced by the German bacteriologist, and because of an imperfect knowledge and understanding what the disease was and what its symptoms indicated, the treatment continued to be characterized by want of confidence or hopelessness on the part of a large majority of the medical profession, and on the part of the consumptive patient, who clung to the old traditions of fateful heredity and inevitable doom, with discouragement and despair.

Gleams of light, however, have been recently breaking through the darkness. The gloom and despair enveloping the unfortunate victims of the great white plague have been

gradually giving place to increasing enlightenment and hope, until to-day countless numbers of physicians, sanitarians, philanthropists, and thinking men and women generally throughout the civilized world, have banded themselves together in societies, leagues and associations with the confident belief and expectation that by the adoption of proper measures of sanitation, education and treatment this dread destroyer of the home may be finally eradicated. In the consummation of an end so devoutly to be wished for, let us as physicians and guardians of the public health do everything in our power to aid in the good work, for the honor of our profession and for the sake of humanity. Already much has been done in the prevention and cure of tuberculosis, in places where it has been most prevalent and fatal; another decade of combined and co-operative action along the lines indicated will undoubtedly accomplish still more encouraging results.

The scope of this paper will not permit of more than a brief summary of the most important and best known facts concerning the treatment of tuberculosis. If in this review much that is presented may sound familiar to your ears, pray excuse the repetition; there are some things of such great interest and importance they cannot be too often reiterated or too strongly emphasized.

Tuberculosis a Curable Disease.—The knowledge that tuberculosis is not necessarily fatal, but that in a large majority of cases it is a curable affection, is one of the most cheering facts which modern science has vouchsafed to the contemplation of suffering humanity. The supposed relentless fate which condemned to lingering misery and certain death every individual affected with this disease, has proved to be not so merciless after all. Many cases of tuberculosis are now known to have been cured spontaneously or by natural means; many also have been cured by prompt and proper treatment.

The most striking proof of the curability of tuberculosis is afforded by the findings in post-mortem examinations made upon thousands of persons dying of other diseases, sudden deaths, accidents, operations and the like. These show not only the extraordinary frequency of tubercular infection but also that in a large percentage of cases the disease undergoes a spontaneous process of arrest or healing. Even conservative estimates place the proportion of spontaneously healed pulmonary lesions at from 10 to 25 per cent. Regarding the possible cure of consumption under suitable sanitary conditions and treatment, demonstrable proof is furnished by the results obtained in special sanatoria, and after long sea-voyages or extended sojourn in the mountains and other healthy localities, under medical supervision. In an analysis of fifteen hundred cases of tuberculosis discharged from the Adirondack Cottage Sanatorium from two to 18 years, Lawrason Brown (1903), gives the following data: 1,066 patients were traced, 434 untraced. Of the 1,066 47.7 per cent were still living, 30 per cent were well, 6.5 per cent were arrested, 4 per cent relapsed, 5.2 per cent were chronic, and 53.3 per cent died. Thus, out of all classes of patients treated, nearly one in three remained well after two or more years, and therefore may be said to have been cured.

Indispensable Conditions of Cure.—But for the cure of tubercular diseases certain conditions are almost always indispensable. Among the more important of these are: *First*, an early recognition of the disease before there is any serious constitutional involvement; *second*, a resolute determination on the part of the patient to submit to the heavy sacrifices which are necessary in order that the treatment may have a reasonable chance of success—such as change of occupation, a radical alteration in the mode of life, a prolonged perseverance in a rational hygiene and suitable medical treatment of symptoms, and, if possible, a change of climate. *Third*, there must be cherished a confident hope of recovery,

not the spurious *spes phthisica* of the dying consumptive, but a hope strong enough to warrant a cheerful acquiescence in the unusual sacrifices which the treatment requires. (Lindsay.)

The importance of an early recognition of the disease cannot be over-estimated, for upon this more than anything else depends the success of the treatment. The recognition of incipient tuberculosis, however, is not always easy. Physical examination, even by the most expert physician is seldom sufficient to reveal the existence of the disease with any degree of certainty. In the early stages all the usual signs and symptoms ordinarily ascribed to tuberculosis may be entirely absent, or if present they may not be conspicuous enough to attract the attention of the affected individual or his medical adviser, and their true significance may thus escape observation. The only positive means of recognizing beginning pulmonary tuberculosis is by the bacteriological examination of the sputum. Other means have been proposed for the diagnosis of incipient tuberculosis, and in the hands of some physicians have been successfully employed, viz.: the tuberculin test and the Roentgen-rays. Neither of these, however, by reason of the necessary restrictions upon their employment, are ordinarily suitable for general use. It is true that tubercle bacilli may not be found in the expectoration on the first examination, and in the absence of cough and expectoration in the very beginning of the disease certain difficulties are presented in obtaining a good specimen for examination; but, nevertheless, the bacilli are often present in small numbers very early in the disease, and perfect accuracy of diagnosis can be established in no other way.

The inflammatory changes set up by the invasion of the tubercle bacillus into the tissues are usually at first very slight and the effects entirely local. The area of infection is now small and restricted, and the tubercular process not infrequently is spontaneously arrested, the bacilli in this case

dying off and scar-tissue as in the healing of wounds being formed. At this stage of the disease, therefore, the best opportunity is afforded for successful treatment. But if the disease is unrecognized or neglected, the process is apt to extend, and the area of infection is enlarged by the formation of masses of tubercles, until finally a great part of one or both lungs becomes affected. The bacilli, at the same time, continue to grow and multiply and produce poisons which are absorbed by the system and give rise to constitutional symptoms. It is this stage of the disease which is generally recognized by its physical and other signs, consolidation, respiratory changes, cough, expectoration, hemorrhage, loss of weight and appetite, sweats, fever, etc., and which commonly goes by the name of consumption. These cases, however, with very few exceptions, usually end fatally, despite all treatment.

It is thus of the utmost importance that the diagnosis should be made at the earliest possible moment. On the slightest suspicion of tuberculosis the expectoration of the suspected individual should be examined microscopically, and if the bacilli are immediately found the examination should be repeated at intervals. Tuberculosis is to be suspected, moreover, in all cases in which there is cough, with or without expectoration, persisting for more than a few weeks, or in which there are symptoms of anæmia, unexplained pallor, loss of weight and strength, languor, indigestion or loss of appetite, even if the cough is slight or absent; and also after other respiratory or wasting diseases, such as bronchitis, pleurisy, pneumonia, grippe, typhoid fever and the like. (Biggs and Guerard.)

But while the examination of the sputum is all important in making a diagnosis of incipient tuberculosis, the clinitian should not endeavor to shift all the responsibility from his shoulders to those of the bacteriologist. A single examination of the expectoration is aboslutely valueless, and if not

interpreted as it should be can be of the greatest harm to the patient. A single negative examination means nothing except that the particular specimen examined gave a negative result. A negative result, to have any practical significance at all, and never to be compared in importance, of course, with a positive one, must be the collective result of a series of careful observations of the daily specimen, raised preferably early in the morning on waking, for a period covering at least two or more weeks. In the absence then of bacilli, and in the absence of all symptoms, we may possibly decide against the presence of tuberculosis. It is the general practitioner, not the specialist, who must bear the greater burden of responsibility in making the diagnosis of incipient tuberculosis, because this depends, as a rule, on the careful and constant observation of the patient for a prolonged period of time, and on the possession of every fact that can be elicited from a complete history of the case, knowledge of the surroundings and life of the patient, as well as of all symptoms including, lastly, the physical examination.

Drugs and Medication.—So far as we know to-day there is no specific remedy for the cure of tuberculosis; the ideal means of treating the disease by specific drug or medication, as mercury for syphilis, quinine for malaria, or antitoxin for diphtheria, is yet to be discovered. Whether serum-therapy is destined to solve the problem remains for the future to decide, but up to the present time the results obtained from treatment with anti-tuberculous serum would scarcely warrant our forming such an opinion. Every conceivable way of procuring the true products of the tubercle bacillus seems to have been tried, so as to cause the infected animals to produce antibodies, both antitoxic and bactericidal. Various recent investigators have presented claims that their sera are truly curative. But although these scientists undoubtedly have large experience in this kind of research, the final judgment will probably be that little good comes from the injection

of these sera in the human subject. Very few observers have succeeded, apparently, in obtaining appreciable results with the sera prepared by other experimenters. In spite of much conflicting testimony it would seem to be safe to say, therefore, that no new sera obtainable have any great value. Nor as we look at the progressive nature of tuberculosis, can we see much ground to hope for the abundant development of curative substances in the blood of animals. This view, however, in no way lessens the necessity for continued effort until every method known to science has been completely exhausted. (Park and Guerard.)

At the same time, while there is no known specific medication for the cure of tuberculosis, the use of drugs should not be ignored or decried for the relief of symptoms. Cod liver oil and the hypophosphites certainly act beneficially in many cases as general food-tonics in upbuilding of the system, especially with those patients who are compelled to remain at home amid unsuitable surroundings. And many other remedies such as creosote, strychnine, arsenic, belladonna, opium, cocaine, mercury and ammonia preparations, etc., in the hands of skillful physicians and in properly selected cases, have given good results in symptomatic treatment. To withhold all drugs, which appears to be the tendency at present, because they have no known curative influence upon the tubercular process, while they may and often do contribute to the relief of discomforting symptoms, would seem to be to deprive the patient of some of the means of combating the diseases when he most needs their assistance, that is, until circumstances may permit of his being placed in proper hygienic or climatic conditions. Far more important, however, than drugs, is the immediate adpotion of hygienic and dietetic measures, suitable nutrition, rest, and, as soon as possible, climatic change.

Climatic Treatment.—Some years ago climate was thought to play an essential part in the treatment of consumption, and patients were advised to go to one or other of the

numerous health resorts for consumptives, with the idea that certain climates had a specific curative effect upon the disease. But we now know that, though one climate may be better than another, generally speaking, or that because of its abundance of sunshine, pure air, little fog and moderate temperature—which are the special characteristics of the climate of our Western North Carolina mountains, lying in the golden mean of altitude and latitude—one may possess certain advantages over another for the treatment of tuberculosis; it is not so much the climate as the out-door life and fresh air by day and night, which do our patients good. If made use of in the proper stage of the disease and under the proper conditions, climatic treatment is distinctly beneficial; but it is not suitable for consumptives during the acute stage of their affection. Many an unfortunate has been induced to leave home and friends to live poorly and alone in some far-away place, to die finally, perhaps, at sea, or lay his bones on a foreign strand, because he was told that climate would miraculously cure him. Not a few so-called health resorts for consumptives have become more or less infected, in spite of their originally pure air and healthfulness; and it is often better for patients, even if physically as well as financially able to seek climatic change, to stay at home and take advantage of such hygienic conditions as may be obtainable in a large city under skilled medical supervision, rather than go to a place much frequented by consumptives, however specific the climate is supposed to be, and do without the necessary comforts, good food, medical attention and sanitary protection. Under no circumstances whatever should a consumptive be sent or remain anywhere except on the advice and in the care of an experienced physician, and preferably in a sanatorium especially equipped and exclusively applied to the treatment of tubercular patients.

Sanatorium Treatment.—The modern sanatorium treatment, that is, the combined climatic, dietetic, hygienic and

symptomatic treatment of tuberculosis in institutions created for the purpose, as founded by Brehmer in Germany, in 1859, and by Trudeau in this country in 1884, is certainly the best which we have to offer to our patients at the present time. Not only do these institutions present to consumptives in the earlier stages of their disease the greatest possible chance of recovery, but they are the best means of caring for those who are so far advanced that, as far as treatment is concerned, there is little more to be done. In a well-conducted sanatorium the physicians in charge are more thoroughly trained and have larger experience; the patients are under more constant medical control and supervision, can be more closely watched and continually advised as to the minor details of their daily life; the instructions given are more likely to be followed, by mere force of example, in an institution whose patients are managed collectively than when treated individually at home; and last, but not least, there is to be considered the inestimable educational value of systematic sanatorium training on the patients as a means of teaching them not only how to take care of themselves now and in the future, but how to avoid re-infection of themselves and prevent the infection of others.

"By the modern method of treatment," says Clifford Allbutt, "we are not only curing the individual, but we are also laying the chief stone of the edifice of prevention. This modern method we may call the method of Brehmer; but it is called more commonly the sanatorium method. To this name some objection has been made; it is said that the method may be carried out independently of the sanatorium. We cannot be guided by the etymology of names—no name can indicate all the connotations of its subject; but I think that this objection is a shallow one. The method was worked out in a sanatorium created for the purpose, it has been tested and perfected in sanatoria, and if now it can be carried on outside a sanatorium, which is not too readily to be admitted,

this is so only by bringing the skill and the conditions of the sanatorium into the home. I should look with little confidence on the home treatment of a phthisical patient by a physician unversed in the practice of the sanatorium, and by a patient who had not had at least a month's training within its precincts. It is, as it were, to tell a boy at home to read his Cæsar and his Xenophen, a little Euclid and Algebra, to pat him on the head, bid him be good and industrious and promise to call in a week or ten days to see how he has got on."

Home Treatment.—But while it must be acknowledged that treatment in special sanatoria is the best, ideally, for the care of earlier cases and for the care and isolation of more advanced cases of the disease, there are some insurmountable obstacles to its general application, some evident reasons why the home treatment of consumptives is often practically necessary. It is true that there are many private and public sanatoria at present in successful operation, and more are constantly being erected in various healthy localities in the country; nor is there any enterprise more worthy of thoughtful consideration and encouragement not only from a humanitarian and economic standpoint, but also for the protection of the public health, than the establishment of sanatoria for consumptives by States and cities as well as by private individuals; but the capacity of all the sanatoria, State, municipal and private, and all other institutions of like character now in existence or possible to be erected, would not suffice to accommodate but a fractional part of the patients known to be suffering from tuberculosis; and only a very small proportion of these could afford to pay for such treatment, or, even if they were given free treatment, would be able to leave home for the proper length of time to derive any permanent benefit from it. It therefore becomes a matter of necessity, in a very large majority of instances, to adopt treatment at home, or the sanatorium methods modified to meet the requirements of the individual and his surroundings.

The principles of this treatment are embodied in what is commonly known as the open-air rest cure: fresh air out of doors so many hours out of the twenty-four as possible; fresh air all the time and in all weather, with or without sunshine, with or without dampness, with or without winds, with heat or cold; fresh air in doors, free extreme ventilation by day and night, sleeping with open windows summer and winter, or in tents outside; rest in the open; absolute rest in cases of hemorrhage, fever or rapid heart action; superabundance of good, wholesome food; graduated physical and respiratory exercises; proper attention to the skin by bathing, massage, etc., observance of the general laws of hygiene; and employment of drugs for the relief of symptoms when distinctly indicated—these are the essential features of the treatment.

Success in the home treatment of tuberculosis is of course possible, but not easy of attainment. This slow, tedious and very chronic disease is uninteresting, as a rule, to the general practitioner, and its treatment demands special qualities and training on the part of the physician. A successful result depends upon the tactfulness, sympathetic manner and painstaking care with which the patient is handled; upon the close observance of each little detail of his daily life; upon the confidence with which the physician is able to inspire his patient, thus gaining his active co-operation and cheerful willingness to follow implicitly all directions given. Although a disagreeable duty to perform, the physician should at once inform the patient of the nature of his malady as soon as it is known. It is a mistaken policy to withhold such knowledge from the affected individual, both for his own sake as well as those who live with him, and without such knowledge and understanding of the reasons why the instructions are given the patient cannot be expected to carry them out intelligently. If there is any reasonable hope of his recovery let him know it. Tell him that his disease is curable, but that it may take many months or even years of incessant care and untiring

zeal and perseverance to get well—the length of time and the final result of the treatment depending mostly upon himself.

Results of Treatment.—Reference has already been made to the results obtained in the treatment of consumption. These are best exhibited in the official reports of various special sanatoria.

According to a recent report of the Adirondack Cottage Sanatorium (for 1904), of 296 cases admitted in all stages of the disease, 185 were discharged with the following results: 22 per cent apparently cured; 58 per cent arrested; 12 per cent improved; 6 per cent unimproved; 1 per cent died. Of 153 patients who remained from three to 19 months under treatment, that is, a long enough time to show any positive results, out of 47 incipient cases 51 per cent were apparently cured, 41 per cent arrested, 6 per cent improved; 2 per cent unimproved, and none died. Out of 106 advanced cases 11 per cent were apparently cured, 67 per cent arrested, 12 per cent improved, 9 per cent unimproved, and 1 per cent died. (Cases in which the rational signs of phthisis and the bacilli in the expectoration have been absent for at least three months or who have no expectoration at all—any abnormal physical signs remaining being interpreted as indicative of a healed lesion—are termed *apparently cured.* Cases in which cough, expectoration and bacilli are still present, but in which all constitutional disturbance has disappeared for several months—the physical signs being interpreted as indicative of a retrogressive or arrested process—are termed *arrested.*)

These results, which may be taken as a type of the best results obtainable by the modern or sanatorium method of treatment, are certainly most encouraging. They point conclusively to the fact that tuberculosis in its earlier stages can be cured in the proportion of at least 50 per cent, and an additional 40 per cent arrested; and that even in its moderately advanced stages the progress of the disease may often be checked in a large percentage of cases. Although the

treatment given in private practice may not always show the brilliant recorded results of model sanatoria, still similar results are undoubtedly obtainable by diligent and careful application of the same methods in the home.

With this knowledge, which we now have, not only of the cause and nature of the disease, but of the successful results of its treatment, we are warranted in asserting that tuberculosis is not an inevitable decree of fate, not a cruel dispensation of Providence, beyond all human control—as was formerly supposed—but that it is both preventable and curable. Despite the pessimistic skepticism of the critics who ridicule our belief as the dream of sanitoria enthusiasts, we believe, and have good reason to believe, that this widespread and dangerous infection may be eventually exterminated—and this by comparatively simple and easy means. There is no specific treatment, no panacea for the disease, and none may probably be discovered; but the remedy for this, as for many other ills from which mankind unhappily suffers, rests largely in ourselves.

> "Our remedies oft in ourselves do lie,
> Which we ascribe to heaven: the fated sky
> Gives no free scope, only doth backward pull
> Our slow designs when we ourselves are dull."

TUBERCULOSIS.

BY K. M. FERGUSON, M.D., SOUTHERN PINES, N. C.

"The tubercle bacillus is a micro organism which, according to all previous experiences, requires for its growth and development a temperature approximately to that of the blood, and that it is unable to develop or multiply for lack of a suitable nutritive medium and favorable temperature externally to the animal body, and wherever we meet tubercle bacilli in nature our knowledge of their characteristics prompt us to refer them to some tuberculous individual or animal in point of origin." (Cornet.)

If the human or animal body are the sources of propagation it concerns us especially to know how, and under what conditions and circumstances these bacilli are so given off, as to continue their work in the dissemination of this disease. When Koch announced his discovery of the tubercle bacillus in 1882 he taught that bovine tuberculosis and human tuberculosis were one and the same. In 1901, however, as the result of a more extended experiment, he concluded that the bacilli of bovine tuberculosis were not capable of producing ordinary tuberculosis in the human being, and that he did not believe that either meat or milk from tuberculous cattle was dangerous to man. Trudeau and many other investigators have shown that the tubercle bacilli in point of pathogenicity is influenced by the host in which it is making its sojourn, and while this question in all of its relations, has probably not been settled, yet the preponderance of evidence is against the doctrine of the duality of tuberculosis as taught by Koch, and the two forms of the disease are in a sense interchangeable. The theory of the ubiquity of the tubercle bacilli, to the immeasureable comfort of us all, has been justly discredited.

Before the character and peculiarities of the germ were

so well understood as now, it was believed by many scientists that the breath of the consumptive was loaded with bacilli, which were sown by the wind broadcast. The law of gravitation was forgotten, and prophylaxis was looked upon as impossible, but the facts are to the contrary, and there is probably no other infectious disease so absolutely under our control in point of limitation as in tuberculosis. Pre-disposition is an elastic theory that fits every case in which we are unable to trace the source of infection, and is as old as the teachings of Hippocrates. Some one has compared the human organism, in this regard to the parable of the sower, "Some seed fell upon good ground, some in stony places, others by the wayside, etc." During the days of the theory of the ubiquity of the tubercle bacilli, the doctrine of pre-disposition had of necessity to be maintained to explain the immunity of many people against the supposedly universal dissemination of the germ. The question of pre-disposition is a broad one, and when accepted in the sense of a special predilection on the part of the organism, will often prove lacking in good reasons for confirmation. In a given case the question of pre-disposition and the question in the degree of exposure to infection is one difficult to separate and estimate. "There is both a quantitative and qualitative degree of exposure to infection which has often doubtless been accepted in the sense of an increased or diminished individual susceptibility." (Cornet.)

If pre-disposition is prominent as a causative factor in tuberculosis, it would not be much of a stretch of the imagination to conclude that the entire lung in a victim of tuberculosis, caused by pre-disposition, would show a sameness in point of surrender to the disease; but we know that it is often the case that in the same lung one tuberculous focus heals, while another increases in size, in one cavity a process of cicatrization is going on, in the other rapid disorganization of lung tissue, and the same reasoning applies to any of the other elements of the organism to which pre-disposition might

be assigned. When pre-disposition is regarded as important in the creation of a given case of tuberculosis, as exposure to a source of infection, the position is certainly unsupported by clinical facts. Impaired innervation, however, from weakened parents "grades variations in the point of energy and resistance with which different cells oppose the entrance of bacilli," (Cornet) just as catarrhal conditions can weaken and render infection easier because the cell energy has been impaired, and is unequal to the task of throwing off the germ which happened to be inspired, in this sense pre-disposition does exist as a causative factor in tuberculosis. The great sovereign cause, however, established by clinical facts in the dissemination of this diease, is the tubercle bacilli given off from dried sputum, and when the masses have been imbued with this idea a valuable step in point of prophylaxis will have been taken. It is estimated that a single tuberculous individual in a stage of cavity formation can produce daily 7,200 millions of bacilli, and if this is correct, it is apparent that a consumptive, if he permits his sputum to dry is capable of infecting a great many people. The danger of infection, however, from this source is not so great as the earlier conception of it, since it has been shown by investigators that the "tubercle bacillus as an individual entity probably has only a very brief existence in the body, and that the majority of bacilli in sputum and in cavities are already dead, though indistinguishable microscopically from the living forms." (Cornet). But as pleasing as the acceptance of this theory may be, it is not to be forgotten that some are always alive and capable of propagating their kind, if they find lodgment in suitable soil.

"Tubercle bacilli perish within from a few minutes to hours when exposed directly to sunlight, and within a few days when exposed to diffuse sunlight." (Cornet). And if this be true a different condition would obtain in a dwelling where sputum had been allowed to dry, because the sun and atmos-

phere would play a far less active role, and clinical facts bear out the theory that in dark places and in dwellings shut off from light are found the special breeding-places of tuberculosis. "The vitality of the tubercle bacilli as settled by animal experimentation shows that after about six months that large quantities of expectorated sputum show not a single germ capable of further development." (Cornet.)

With the acceptation of this theory our fears of premises where tuberculous subjects resided a year or two ago are not well founded.

In a recent visit to St. Joseph's Hospital in New York, where more than four hundred consumptives are cared for, I inquired in how many instances had the attendants been infected and the answer was not once in all the history of the hospital. The personality of the consumptive means much, and the one who is careful with his sputum for both sanitary and æsthetic reasons is practically harmless.

An early diagnosis is of prime importance in tuberculosis, and it too often happens, especially where the supposed hereditary pre-disposition does not exist, that we are slow to accept a fact so disagreeable as a diagnosis of this disease. While tuberculosis is in itself localized there is an early constitutional derangement expressed in a slight daily rise of temperature, as a result of the absorption of proteins and destructive metabolic products, this experience, varying of course with the number and size of the diseased process, as well as idiosyncrasy.

"The absorptive capacity of the circulatory channels seems to exercise a wide range of variability at different ages, the young absorb more freely than the aged, hence the fact that children compared with older people show much more pronounced constitutional symptoms." (Cornet). Not only is this true in tuberculosis, but in many other diseases, and must be due to either a greater absorptive capacity or to a given amount of poison in a smaller quantity of blood.

In paroxysmal exacerbations of temperature from malarial poisoning we know it to be due to a blood parasite existing and continuing its cycle of existence in the red blood corpuscle of the infected individual; several varieties exist, each of which is associated with a characteristic type of fever as the parasite of a tertian fever, the parasite of quartan fever, etc., they accomplish their cycle of development within a given number of hours, and with this comes the malarial paroxysm conforming with absolute regularity to the variety of the parasite; here we know as aboslutely as we can know anything the cause of the daily or every other day exacerbation of fever, and we know that anemia must follow as a consequence, because the red blood corpuscles are destroyed as often as they become the host of the parasite. In tuberculosis we have daily exacerbation of temperature, especially in the incipient stage of tuberculosis, that conforms ordinarily to the same regularity as a temperature produced by malaria, and so invariably true is this that it is regarded as one of the most valuable symptoms in an early diagnosis. This being a fact, this effect must rest upon some cause. The injection of tuberculin, which to a certain extent is analogous to the direct absorption of the metabolic products of the tubercle bacilli, if practiced in the morning hours, will be followed by a rise in temperature in the evening or night hours. There must be in effect something in common between the natural absorption of bacterial toxins and the injection of tuberculin, and if it requires several hours for the tuberculin to effect a rise in temperature, it would naturally require a similar length of time for a similar agent taken into the circulation by natural absorption to produce a similar effect.

If it can be assumed that the absorption of bacterial toxins goes on continuously, it is not illogical to further assume that "during the fever period there is a dilatation of the internal vessels, including those distributed through the lungs, and a corresponding decrease of pressure in the pulmonary veins

and arteries, which brings, for a time, upon the part of the blood, a decreased capacity for the absorption of foreign material" (Cornet), and during this period of diminished absorption, excretion goes on naturally and necessarily, to the extent of eliminating largely the bacterial toxins from the blood with the effect, of course, that the dilatant action upon the vessels of the internal viscera after a time is arrested, and blood pressure rises, as a consequence absorption is resumed in a greater measure, until the entire procedure repeats itself. We know that activity favors absorption, and that rest reduces it. During the hours of sleep absorption is naturally diminished, the return of the waking hours brings again a period of activity, in a measure greater or less, the morning cough results in an increased intrathoracic pressure, and with the ordinary activity of the day comes again increased absorption of the poisons, followed as a result with the characteristic fever. (This, of course, does not apply to septic fever or the fibrous forms, which may run their course practically without fever.)

Tuberculosis is a sharply localized disease, making its inroads upon mankind through the secretions and excretions of tuberculous individuals, and in a lesser measure through the meat and milk of infected animals; and this knowledge is a sufficient warrant upon our part to lead to certain definite and imperative conditions. First of all, define its limitations by destroying the opportunity of distributing infectious material. Every consumptive, not only for his consideration for others, but from his own sense of right and his own interest, should dispose of his sputum while it is in a moist state, and much will be done to limit the infectious circle which he creates. Prophylaxis is getting on a firmer basis, it has done much and will do more to reduce the frequency of tuberculosis.

The victim of tuberculosis, though a maimed bark on a rough sea, is not necessarily predestined to perish, as proven by clinical facts.

The therapy of pulmonary phthisis, while embracing no specific, yet energetic and skillful treatment is not without its reward. Recovery comes at the cost of invincible perseverance; the will power and the endurance of the patient are subjected to a test that invokes the best efforts of a strong and inflexible personality. This is pre-eminently the disease requiring attention to all the details; no single element of phthisic therapy is effective alone; "the satisfaction of all the physiological and hygienic demands of the organism from the least to the greatest must be met" (Cornet).

Tuberculin has been credited by unquestionable authority with merit in the treatment of tuberculosis, and clinical facts seem to justify the opinion that it does in reality contain a curative substance, which, by chance or otherwise, has met a suited applicability in some cases of phthisis. Landerer is credited with the idea of turning tuberculous foci into solid cicatrices by means of inflammation produced by injections of cinnamic acid, and credits a number of cures to this process.

Grant that this is true; grant that tuberculin might exercise a curative influence over a given tuberculous focus, and still a common barrier stands in the way of their common use in a general treatment of this disease, for the reason that a stimulus or other agent, designed for a given tuberculous centre, used in a given case, where the different foci are in different stages of advancement, could not have a common applicability to these various centers, and for this reason either of these agents might not only be incapable of good, but productive of great harm by the permeation of the focus and the dissemination of the bacilli in those centers to which they were unsuited. I have seen cases of tuberculosis that had advanced to the stage of cavity formation, yet existing in a state of low activity as evidenced by a normal temperature and a gain in weight and strength, thrown into a state of high activity by tuberculin injection, followed by rapid advancement and death.

If a state of inactivity results in the absorption by the blood of a smaller amount of the metabolic products of the tubercle bacilli, as is evidenced by a lowering of the temperature when this state is maintained, certainly the principle of the rest cure is well founded.

Emaciation is one of the earliest as well as one of the most apparent results of tuberculosis, and to stay this process and make good even that which has already been lost by a heightened nutrition, is naturally one of the first indications to be met.

Brehmer inaugurated the open-air treatment forty years ago, and from the clinical facts attesting its merit, it has grown in popular favor down to the present day.

The three great cardinal principles, then, in the treatment of tuberculosis as regarded by the medical world in the light of our present knowledge of the disease, is rest, pure air, and suitable nutrition.

Dr. Trudeau, to whom the world owes much for what he has accomplished along this line, says in speaking of the Adirondack Sanitarium, "that its object is to offer to persons in the first stage of tuberculosis the benefits to be derived from a change of climate, a well-regulated out-of-door life amidst hygienic surroundings, a nourishing diet, and the latest and most approved methods of medical treatment. The treatment is chiefly hygienic, combined with simple medication for symptoms as they may arise. Experience has shown that nowhere can the necessary daily regulations of the patient's life and habits be so successfully carried out as in a sanitarium, and that the most favorable results in combating this disease have been attained in institutions devoted to this special purpose. There is no doubt in the history of most cases of consumption, a time when restoration to health might take place if the patient could for a while give up his occupation and cares and obtain a change of climate and surroundings." Dr. Stockdale, in the White Haven Sanitarium for consump-

tives, near Philadelphia, says: "The secret of our success is our method of feeding and the careful, individual attention the patient receives, and our rigid rules, to which there is no unbending and to which all must adhere or leave. The patients soon fall into this routine when they realize it must be done, and after the first few days find it far from a hardship."

The annual death rate in North Carolina from tuberculosis is between four and five thousand. Private sanitariums for the treatment of tuberculosis can only be a benediction to those who are so situated from the standpoint of ability to pay as to avail themselves of the respective merit of these institutions. Other States are recognizing their obligation to those less favored in this regard. Has the time come for the medical profession of North Carolina to ask the State for an appropriation to build and in part, at least, maintain a sanitarium for the isolation and treatment of the tubercular cases annually occurring within our borders?

THE RATIONAL TREATMENT OF TUBERCULOSIS.

BY WILLIAM REDIN KIRK, PH.G., M.D., HENDERSONVILLE, N. C.

Realizing we have no specific for the treatment of tuberculosis, we naturally turn to those means and methods which have given the most promise of success at the present time, and I believe I am giving true voice for the profession when I say the open-air, rest, diet and supervision method has proven, in the hands of the most competent observers, the most reliable. Open air—the vista broadens as we contemplate how much that trite expression means. Open air, day air, night air, moist air, dry air, any kind of air, so long as it is not enclosed air, is the most important thing in the whole management of the case. How long has it taken us to arrive at this conclusion? If one desired to quote history, it would be shown that those who first advocated it were ridiculed out of the profession, and to-day we humbly pay tribute to their prescience by following in their footsteps. Is there a choice of air? I say yes, when the patient can afford it. There is a growing tendency, I regret to say, among some of our members who in their zeal to assist the cause, are denying any superior advantages to climate. Home treatment, when it can be administered in an institution equipped to give it, is a different matter from home treatment with improvised arrangements and the infinite annoyances concurrent thereto. The frequent intrusion of well-meaning but misguided friends who break in upon our patients' rest with numerous suggestions and proffers of assistance, provided it agrees with their idea of what is best for them. The business cares will not cease because of the close proximity; and a thousand and one little things too numerous to mention are against home treatment conducted in a private residence.

Understand me, my position is not one who opposes such treatment; on the other hand, I believe in it as the next best

thing, and is often most salutary, especially when the patient has had the advantage of a course of instruction in a sanitarium.

Perfect freedom from all debilitating influences which may cause a set-back or exacerbation of the disease naturally brings us to a consideration of rest, exercise, and amusements. In prescribing rest, we are guided, mainly, by the patient's temperature. For anything that causes a rise of temperature will aggravate the disease. An elevation of temperature after exertion, physical or mental, is a positive indication that damage has been done. In the management of these cases the thermometer in the hands of the watchful physician is the same thing as the mariner's compas to the seaman.

When beginning a course of treatment with a new patient, it is my invariable custom to require the temperature to be taken and recorded every two hours for at least three consecutive days. Such a record, supplementing the careful examination of the patient's chest, sputum, blood and urine, gives us an insight into the case and a better understanding of just how much reserve force our patient has, which is a most important point, for in the very beginning of the management of a new case, much harm can be done by careless instructions and indifferent obedience of the patient. When I find the temperature runs up upon slight exertion, I usually put my new patient to bed for a few days, that I may watch the temperature curve under conditions of perfect rest; for then we have a more certain knowledge of what the patient can stand. Excitement incident to travel and getting settled in new quarters most always tells upon the patient's strength, and a rest of a few days in bed is quieting to the nerves and reassuring to the patient; for then they see a physician means to start in at once and handle them with firmness; something that is often neglected in the management of these afflicted ones by their home physician, who would not think of relaxing their attention in the least in most other conditions.

It is probable that no case of pulmonary tuberculosis runs its course without, at some time, during the disease, there is a rise of temperature; yet while this is true, in the majority of instances it is also true that there are many febrile cases. Not every lesion is accompanied by fever. I now have a case of several years duration in which the temperature has been normal for over a year. Recently this one developed a softening in the lower lobe of the right lung, with a formation of a small cavity without a rise of temperature. Such unusual conditions should make us careful to frequently examine the chest, even when there is no elevation of temperature, because it is possible in cases of old standing, where there is more or less immunity, there will be no elevation of temperature.

Rest is never absolute, of course, but rest in bed with every annoyance removed, in a healthful, cheerful environment, is the nearest approach. This can best be accomplished in a sanitarium. Next to rest in bed, the steamer chair in a spot protected from wind and sheltered from too direct rays of the sun is best. Patients that are up and about and running very little temperature do better when they take an hour or two rest lying down in the afternoon. Exercise should never be taken just after meals, and should always be regulated by the thermometer. I require my patients to take their temperature before starting for a walk or drive and again upon returning. Should there be any elevation, the exercise is curtailed.

Just here it may be wise to say that a bath taken in the tub is harmful to most all cases. The exertion of the bath, the different temperatures of the water regulated to suit the caprice of the patient, often does more harm than good. So far as cleanliness is concerned, the daily sponge is sufficient, and also adequate for all other reasons. Mental exertion will often raise the temperature as much as physical. Writing letters home, games of cards, or such like forms of amusements, I have seen elevate the temperature of patients over a

degree. Patients who have rested all day and obeyed every instruction will sometimes indulge in a game of whist after tea, with a result of a degree rise, and spend a sleepless night in consequence. I have observed this so often that it has gotten to be a routine question with me in my first examination of a patient.

Rest is more important by far than all the drugs in the universe. Cough, intestinal disturbances, and night sweats and fever can all disappear under rest. In fact, I rarely give any astringents in diarrhœa or remedies to control night sweats. The early morning cough is beneficial and should not be interfered with, except perhaps to assist by pulmonary inhalations of the essential oils combined with creosote in a menstrum of glymol. I think deep pulmonary inhalations of these substances given daily, not only loosens the cough, making it easy for the patient to expectorate, but in time dries up the excessive excretion. Large doses of creosote (and I give Morson's double-distilled creosote from pine tar in preference to all others) given in this manner does not disturb the stomach and may be continued indefinitely. Almost the same benefit can be derived by this method of administration as can by the old method of administering large doses by the stomach. Another important point is the fact that we keep the residual air in the lungs saturated by creosote and in this manner favor the prevention to a certain extent of re-infection from the patients themselves. Given as it is, by compressed air, requiring the patient to take deep inhalations, has also a beneficial effect because it makes the patient expand unexpanded areas and strengthens by exercise the respiratory muscles.

Those who are able to make daily visits to the office usually receive this inhalation as a routine practice, unless there be some contra-indications. They come more readily when they see that something is being done, enabling you to keep a stricter supervision of them than would otherwise be possible. I require my patients to keep a daily record of their tempera-

ture, rising and retiring hour, hours out of doors, exercise, amusements, and a record of the variety and quantity of food, how they sleep, etc. A copy of the record blank is here exhibited. I may say it is not original with me, but being of especial service to one handling a number of cases, scattered about in hotels and boarding houses of a mountain resort.

As to the matter of exercise, usually walking and driving are the most beneficial. In prescribing walks it is best the patient should start out on the level and continue so, or if allowed a grade that should be taken at the beginning of the walk, for the return trip must always be on a level or down grade. Here a careful scrutiny of the temperature is absolutely necessary. Driving for those who are not able to walk should be so regulated as not to fatigue. Any exercise that fatigues is harmful and should be stopped.

As much difference of opinion as to diet in the management of tuberculosis, the one essential point that all agree upon is that the patient should take the greatest amount of the most nutritious food requiring the least amount of digestive effort. I sometimes think we err in crowding too much nitrogenous food upon our cases, as the experiments of Chittendon, of Yale, have recently demonstrated. There may be much harm done to the excretory organs which have to eliminate the end products. Further observation along these lines will perhaps show us we may have erred in trying to force digestion past the point of assimilation. I have no rule or set diet list to go by, but try to study out the requirements of each individual case. Some patients do better on three meals a day, with milk or eggs in between, others improve most upon one large principal meal, in the afternoon, with small quantities of food at short intervals throughout the day. Milk and eggs, I think we all agree, is the best form of food for the tubercular subject. I do not rely much upon artificial food products, although at times in conditions of enfeebled digestion, malted milk, liquid peptonoids, Mulford's preparation

of beef, Somatose, and a few other excellent proprietary articles have given me good results.

It is obvious that there are many times when it is not wise to increase a patient's diet. Grave structural changes in the kidney, enfeebled heart action, marked defective pulmonary circulation, tubercular involvement of the abdominal visera, and when a patient has markedly passed their normal weight, the tendency towards hemorrhage is increased by rapid gains of weight beyond the patient's natural standard. These, to the laity, are most puzzling. They can not understand why a person who has become corpulent, looks rosy and well, should suddenly die of pulmonary hemorrhage. I think in our efforts to put on weight, we sometimes overlook the strength of the weakened organs we are overtaxing. A diet that is sustaining the strength of the patient and inducing a gradual gain is large enough, and I think we should discourage the rivalry we all notice among our patients to out eat each other. The patient's wishes and appetite are not to be consulted, for often large quantities of food can be taken and assimilated when there is a positive repugnance to it in any form. Rather consider their ability to digest and their power to eliminate than the caprices of their appetites.

In conclusion, let me say no case can be carried to a successful issue without the closest, most careful supervision and the hearty and willing co-operation of the patient. I once heard a distinguished physician say (when asked if a certain case that he had not examined could get well, he replied,) "If the patient has a good heart, good digestion, sound kidneys, and some common sense, I do not care what the lesion in the lungs may be, I will promise to improve him." How often do we fail to relieve our cases who have all the other requirements, yet lack the common sense to intelligently and willingly co-operate with the physician who is doing his utmost to benefit them. I know it is hard to give up pleasures, to quit business, in fact, to stop everything and buckle down

to the task of getting well, especially in the face of repeated set-backs; but how else can we accomplish anything at all, except with the most obedient observance of all our instructions? It is more than half the battle to win the confidence of your patient and hold it, so they will implicitly follow the minutest detail with hopeful intelligence. Then let me say, I believe the best and only way to accomplish these results is by being perfectly frank and honest with them from the very beginning. Tell them their condition truthfully, explain it to them in simple language that they may understand, advise them carefully as to the minutest order, and by so doing you stimulate their confidence in you and in their belief of your ability to cure them. They know better then the dangers, can foresee the pitfalls, better understand when they don't improve, be better prepared to be hopeful through the worst, and all through the trying ordeal will aid you the most willingly, redown the most to your credit, and be the most benefit to them.

A CASE OF ECLAMPSIA.

BY N. D. M'ARTAN, M.D., OCRACOKE, N. C.

Few complicated cases in the practice of obstetrics arise on The Banks of North Carolina. Most of the normal cases are handled by midwives; and when a complicated case arises, it is too late for the physician to give the patient any relief. Eclampsia is on the increase, and the people are learning that it is not safe to trust this important period of their lives to any one but a skilled physician. Many, therefore, are going to the nearby hospitals for treatment during the last month of pregnancy. In the last five years in a radius of one mile, there have been no less than seventeen cases of eclampsia, of which eight died.

Few cases of septicemia are known, and only two cases of placenta previa are known to the midwives. Among the cases that have come under my observation in eight months, only two were complicated. One case was septicemia, which yielded to treatment with little difficulty. The other was eclampsia. I was called *for the first time* at 9 p. m. to Mrs. G., who, the messenger said, was in labor and having "fits." I hastened to her bedside and found *five* midwives with her, and found her arms and legs bound in mustard. She had been bathed all over with whiskey and asafœtida. I was informed that that was what "Old Dr. So-and-so had done during the Civil War while the Yankees were at Hatteras for Mrs. ——." On inquiring, I found that all day Mrs. G. had complained of headache; and at 7 p. m. she said she was blind and had to lie down, and in fifteen minutes she had had a convulsion, and had had one every half hour until 9 o'clock, when I arrived. They had given one dose of potassium bromide after the first convulsion, and could not give anything else by mouth after that, as the patient was unconscious. On examination, I found the pulse one hundred and twenty, breathing stertorous, tongue badly swollen, lips cut and bleeding, pupils dilated, os rigid, contractions regular and firm. I gave a dose of veratum viride hypodermically. On cathe-

terization, I got about six ounces of urine. The urine was thick, of dark color, and of high ammoniacal odor. While I was waiting for the veratrum viride to take effect, she had a convulsion. At first the body became rigid, eyes drawn to the right side, head drawn to left side, face livid, arms drawn up and then across the breast, hands clinched with thumbs between first and second fingers. She would writhe from side to side, and draw the body in every conceivable shape. Then spasm would set in. The hands, feet, head, arms and body would jerk; the mouth open and clinch; the tongue was forced forward and backward; froth stood on her lips; the face became blotched blue and red; and with a few jerky breaths and a struggle that seemed as if it would tear her limb from limb, the muscles would relax and again she would lie still. During the convulsions the pulse would be quick and compressible, the face was flushed and blotched blue and red. Before the convulsion the pulse was hard and quick. I gave three doses of veratrum viride without effect, as she continued to have convulsions. I gave chloroform, but I could control the convulsions only when it was given to the point of surgical anæsthesia. I gave 30 grains of chloral hydrate per rectum without effect. Again I began to push veratrum viride, 5 minims every half hour, but without effect, except to slow the pulse, not controlling the convulsions. At twelve, midnight, I was able to dilate the os, and I delivered a still-born child. The patient continued to have convulsions. I began to give morphine, 1-4 gr., atropine, 1-150 gr., every half hour. The convulsions became farther apart. This I continued until 8 a. m., when convulsions ceased. At this point the patient began to show signs of septicemia from uræmic poisoning; from which she died at 10 p. m. without regaining consciousness.

These cases should impress on our minds the all-important fact that the urine should be examined at regular periods during the last months of pregnancy; and if any irregularities are found we should correct them in time; for when eclampsia has set in, it is then too late.

SUCCESS IN PEDIATRICS AND HOW TO ATTAIN IT.

BY E. A. HINES, M.D., SENECA, S. C.

Two notable papers have been read as annual addresses by the Presidents of the American Medical Association and the Southern Surgical and Gynecological Association within the year upon the general theme of "How to Succeed in Surgery." A number of articles have likewise recently appeared upon "The passing of the general practitioner." These papers have to some extent influenced me in selecting the subject of this paper. Pediatrics has been and will ever remain the work of the general practitioner, and I trust that a few remarks relating to the achievement of success may not be out of place, though the surgical star shines so brightly in the distance for many of you.

In order that we may more clearly understand what success in pediatrics means to-day compared with what it was in the memory of some present, perhaps, permit me to present this graphic picture by Dr. J. J. Black, in his book, "Forty Years in the Medical Profession." He says: Great advances have been made in the general treatment and nourishment of infants in the last forty years. When I was a resident at the Philadelphia Hospital, Blockley, I had the opportunity of seeing something of the practical workings of the day in a foundling hospital, but before I had time to more than get a knowledge of the horrors of the system, much less to apply remedies, my term had expired. At that day most of the foundlings of Philadelphia came to this hospital, and there were quite a number of these poor little waifs. In winter or in summer they nearly all died, starved to death, as it were, from too much and ill-advised feeding, paradoxical as that may appear. Indeed, if one lived beyond infancy it was a curiosity. One or two in several years did so survive,

and one named after President Lincoln was always looked upon with wonder as a survivor of the holocaust of infants at Blockley. There was no system in caring for these bereft babies. A good, well-meaning woman was at the head of it, and the doctors looked in if anybody was ill, or if they took sufficient interest to go oftener. Pauper inmates from among the women were the nurses. Imagine such a thing as asepsis, the use of antiseptics, or any attention to detail with such a gang! The baby food was milk, generally diluted with water, cold or hot as best suited the convenience of the attendant. There was no special care of the milk, no special care of the bottles, and the same might serve for half a dozen children, and as a rule were fitted with, as I remember, the long hose nipples, an abomination, an invention of the devil. The babies did not remain long, and the end was a death certificate of inanition and a grave in "Potter's Field." What a marked contrast is the statement of Prof. Theodore von Escherich, of Vienna, one of the greatest pediatrists of the day, viz.: That modern pediatrics exhibits a scientific structure, including all disturbances of the life processes arranged according to scientific principles, and in its completeness not reached by any other specialty in medicine. To succeed in the truest sense of the word, the practitioner should have the widest range of knowledge. According to Jacobi, he should be familiar with general medicine, embryology and teratology, obstetrics, hygiene, and private and public sanitation, therapeutics both pharmacal and operative, and the specialties of otology, opthalmology, dermatology, and the motor system, pedagogy, neurology, psychiatry, forensic medicine, and criminology.

Added to these subjects embarrassing in their number he should know the possibilities of orthopedic surgery. The pediatrist should be possessed of the utmost tact along with his scientific attainments. It is well to understand the child in health, but barring these opportunities it is absolutely neces-

sary to know the disposition of the child in disease. In my early career I spent many hours by the bedside studying the vagaries of their disposition as well as their pathological vagaries. Those who cannot acquire an absolute mastery of the child in disease should avoid this branch of the healing art. A large obstetrical experience I consider invaluable. A knowledge of the mother is a *sine qua non* to the knowledge of the child. The late Dr. O'Dwyer, of New York, so well known the world over, in a comparatively short life attended over three thousand obstetrical cases. The most complex problem facing the general practitioner and one which he often surrenders to early, is the question of infant feeding. It is the cornerstone of the structure which shall be called success. What is the gist of our knowledge in this important matter? Dr. Alfred Friedlander, in a most excellent paper before the Cincinnati Academy of Medicine, February 12, 1906, sums up the matter: In Germany, he says, the basis of milk modification rests upon a system of caloric equivalents. The amount of nourishment taken by breast-fed babies is estimated by weighing the child before and after feeding. The caloric equivalents of this is calculated usually to the 5th decimal point. With this as a basis, sufficient quantities of diluted cow's milk are taken to give approximately similar results. The exact percentage of proteids, carbohydrates, fats, *per se* are disregarded, and the attempt is made to find, in artificial, a calorimetric quotient of nutrition which shall approximate that of the breast-fed baby as much as possible. In America, largely under the leadership of Rotch, of Boston, the percentage system of feeding has come into vogue. The essence of this method lies in the consideration of the different elements of milk separately and in the attempt to adopt these elements individually to the child's digestion. The French say: To facilitate the digestion of cow's milk we are obliged to dilute it by adding water in varying proportions, according to the age of the child. The younger the

child the greater should be the amount of water used as a diluent. This water should be previously sterilized or boiled, and to it there should be added a small quantity of ordinary sugar or of sugar of milk. The following solutions should be adhered to:

First month—1 part milk, 1 part water.
Second month—2 parts milk—1 part water.
Third month—3 parts milk, 1 part water.
Fourth month—whole milk.

No caloric equivalents, no laboratory percentages, no milk algebra in the otherwise happy home. A year ago I presented before the S. C. Medical Association for the first time the methods of infant feeding in equatorial Africa and South America. The data was secured by careful scientific observers at my request. In Brazil the cow's milk is scarcely obtainable. Unsweetened condensed milk made in Switzerland or France and sterilized milk from Europe is used by some physicians. The poorer natives use a kind of mush or gruel made from mandioca meal. They begin giving this from the second day, thinking mother's milk is not sufficient. This food is given dry after weaning, which swells in the stomach and which is shown by the gait in walking. Child-life is a survival of the fittest.

In Africa infant mortality is very high. Children are fed on soft cassava pudding before being weaned. The wet nurse is used, but it is common for the motherless infant to be sold. Cholera infantum is frequent. Over-feeding is a frequent source of trouble. In brief I have outlined the infant feeding of four continents, the greater part of the globe. Let us learn all we can of this unsettled problem. I believe that in America we shall have much to unlearn. Every modern text-book I have examined accords little favor to the wet nurse. In cases of difficult feeding I believe we have drifted from the only hope of satisfactory help. The artificial feeding of the new-born is a stupendous task.

Mixed feeding is infinitely better. I believe the profession has seriously erred in creating by voice and pen a sentiment against the wet nurse. I here present the photographs of some of my cases bearing out my statements. Case number one is a fine specimen of boyhood. The mother a primipara, paid her tribute to surgery a few years before marriage by an ovariotomy and entero suspension of the uterus, besides having chronic ear disease from early life.

She soon demonstrated her inability to completely satisfy her child, and tried various artificial foods with serious results. I advised at once a wet nurse, and the trouble ceased. About the fourth month cow's milk was substituted for the wet nurse, with the success you see here. Case two should have the prize. The mother died when the baby was a few hours old. I advised a wet nurse whose baby died about same time. She nursed the baby 13 months; turned the baby over to the grandmother, who finished the good work with butter milk. Never was sick a day. Case three: Mother had prolonged septic pyelitis. Baby had to be weaned at three months. We had everything money could buy for artificial feeding, and tried many plans except the wet nurse. Chronic entero-colitis developed first summer and death appeared imminent after a long effort of treatment at home. I had the child carried to the mountains 30 miles distant, and with a long-distance telephone in the house and in my office conducted the case to a successful issue. The altitude was 2,000 feet. The entire siege of the illness was six months. Case four: Mother's milk insufficient. Wet nurse secured for two months and then cow's milk begun with the happiest results.

Case five: Very difficult feeding. Tried various artificial foods. Entero-colitis of severe type developed second summer. Carried her to the highest habitable point in the mountains near by, an altitude of nearly four thousand feet, conducted personally the treatment for a month with good results. If the average wet nurse is paid well and treated decently she can generally be secured.

As the capstone of this structure called success I place the hygiene of the child. It should be the cornerstone; but I fear the time is far in the future when hygiene shall be rightfully regarded. In my own community I have inaugurated a plan, which I believe is original with me, looking to this end. I offer a gold medal known as the physical culture medal in our graded school. The requirements as follows: To be given for special care of the body, neatness of dress, clean hands and hair, clean teeth and erect carriage; 50 per cent of the count to be taken from observations by the teachers while out of school hours. The scholars vie with each other; the teachers frequently allude to the contest, and most important of all the parents are now taking a lively interest. There has been no distressing epidemic in the school since this plan was begun, whereas formerly such was the case almost every year. This fact may be a coincidence. I hope to introduce dental hygiene by lectures from our dentists at some future date.

Time forbids the all-important subject of diagnosis and treatment of disease. I have tried to embody general principles. Simplicity is the keynote of success in most therapeutic measures.

GOITRE.

BY ANNIE L. ALEXANDER, M.D , CHARLOTTE, N. C.

Mr. President and Gentlemen:

Having been a victim of exophthalmic goitre, and the number of cases that have come under my observation during the past few years has led me to study goitre and to write this paper.

It is a much more frequent disease in this part of the country than is generally supposed. I have seen many cases during the past six years. Only a few of these wanted treatment for it. Out of 100 college girls examined for physical culture classes 11 had thyroid enlargement. Very few of the cases I see want treatment, as they suffer no great inconvenience from it.

Goitre is an hypertrophy of the thyroid gland. It may be of one or both lobes, or of the isthmus alone. The lobes of the thyroid are closely applied to the sides of the larynx and trachea, and extend backward to the œsophagus. The recurrent laryngeal nerve is in the angle between the œsophagus and the trachea, on a level with the isthmus. The gland is covered in front by the sterno-hyoid, the sterno-thyroid and omo-hyoid muscles. The lateral surfaces lie in contact with the sheath of the common carotid artery. The lower end of each lobe lies on the fifth or sixth ring of the trachea, the upper end is on a level with the middle of the thyroid cartilage. In many cases there is a third lobe, extending from the isthmus up to the hyoid bone, to which it is attached by muscular or fibrous tissue. The gland is firmly fixed to the larynx and trachea, so that it follows them in deglutition. It weighs from one to two ounces. It is relatively larger in infants than in adults; larger in females than in males. The anatomy of the gland is liable to great variations. It is rich in blood supply from four arteries. They form many ansatomoses.

The nerve supply is from the middle and inferior cervical sympathetic ganglia. The colloid substance is the secretion of the epitelial cells which line the alveoli. The central part of the alveoli acts as a reservoir where the secretion is stored, the secretion escapes by the lymphatics. The activity of the secretion varies. The influence of this secretion on the body is very wonderful. Myxedema results from failure of the normal supply, and an over-supply produces symptoms directly contrasting to myxedema. Myxedema is a very interesting condition and is quite amenable to treatment since organotherapy is so well known.

Goitre is very prevalent in parts of the United States and Canada. It is endemic in parts of Italy and in the mountains of Switzerland.

There are three varieties of simple goitre; parenchymatous, in which all the structures of the gland are enlarged and increased; vascular, in which the enlargement is chiefly due to dilatation of the blood vessels; cystic, in which the enlarged gland is made up of large cysts. The enlargement may be uniform or affect only one part of the gland. When small, simple goitre causes no inconvenience. Its growth may compress the trachea and œsophagus, and interfere with respiration and deglutition. It may extend behind the sternum and compress the veins. It may extend outward and upward and compress the carotids and jugular veins.

Aside from pressure symptoms simple goitre gives no trouble, unless "it goes to the brain;" that is, the knowledge of its existence causes great mental anxiety and consequent derangement of the secretory functions.

The cause of goitre is not known. Medicinal treatment of goitre is very unsatisfactory. The most common treatment is iodine in some form—internally and externally. The compound tincture of iodine, 10 to 30 drops three times a day, has proved beneficial in some cases. Iodine is borne badly by some stomachs; if given in sweet milk there are no un-

pleasant symptoms and the taste is completely disguised. This treatment often fails.

Thyroid extract seems to offer more hope of success than any other constitutional remedy, but it more often fails than cures. It is only in the parenchymatous variety that it does any good. It acts by supplying the needed material to the system, thereby causing disuse and consequent atrophy of the enlarged gland. It is advisable to begin with ten minims of the liquor thyroidei each night. In the course of a week, if this does not cause the pulse to go over 100 per minute, two doses a day may be given; if this does not accelerate the pulse it may be given three times a day. The treatment should be given three or four weeks to give it a fair trial. If the tumor is found to be diminishing continue the treatment. The thyroid tablets, 3 to 5 grains, may be used in the same way.

In large parenchymatous growths this treatment has been successful, removing pressure symptoms and the necessity for operation. Experiment has shown that the use of thyroids in healthy animals has caused decrease in the size of the normal gland.

The injection treatment has been used with good results in some cases. A saturated solution of iodoform in ether, beginning with 5 drops, increasing to 25, injected into the interior of the tumor once a week, has been used successfully by some. This treatment is quite painful; severe pain in the side of face, head and ear. This subsides in a few moments. Peper and Da Costa used ergotin by injection with good results. There is little danger of supuration if asepsis is carried out. Electrolysis is curative in some cases; more often it fails. It is most useful in small goitres in the early stage. It should be used with caution, as it may prove harmful.

In 1891 Dr. Hunter McGuire described the cataphoric treatment. A cup-shaped electrode is used in which is placed some absorbent cotton, first dipped in warm water and

squeezed dry, on this a few drops of iodine are poured. This is placed over the most prominent part of the goitre; the negative pole is placed on the back of the neck. Six or eight milliamperes are passed daily for ten minutes. A current much stronger blisters the surface, which should be avoided.

My experience has been that medical treatment is of no value; the cases which have recovered under treatment would have recovered spontaneously, and did so in spite of the treatment. Dr. Osler says: "The medical treatment of goitre is very unsatisfactory. The affection usually comes under the care of a surgeon."

Exophthalmic goitre, known also as Grave's disease and Basedow's disease, is a disease of great interest and importance. This disease was described in 1829 by an Italian writer. In 1843 Graves published his views of it. In 1840 Basedow, in Germany, wrote of it.

Etiology.—Exophthalmic goitre usually comes between 20 and 40 years of age. It occurs five or six times more frequently in women than men. A neuropathic heredity seems to play a part in the development of it. Pubescence in girls seems to predispose to it. Mental shock, prolonged grief and pregnancy seem to excite it. It is sometimes associated with chorea, epilepsy, and hysteria. It is sometimes found affecting several members of the same family. I know a family of mother and three sisters having it.

Olmstead, of Ontario, says: "Although the thyroid gland is not the cause of Graves' disease, it certainly has a very great influence on its course."

It is a complete contrast to myxedema, which is due to insufficient thyroid secretion.

Graves considered it a disease of the heart. Some regard it as a pure neurosis. Its sudden onset after profund emotion, in some cases, favor this theory. Other investigators attribute it to mechanical pressure of the cervical vessels and nerves.

At present there are two theories as to the cause of the disease. One points to the medulla and sympathetic nervous system; the other to the thyroid gland. The cardiac, vasomotor and thermic disturbance seem to point to the medulla. The central and sympathetic nervous systems have been examined, post-mortem, in numbers of cases, and have been found normal in some, and in others various lesions have been found which might have been secondary. Supporting the views of those who hold that the thyroid is the cause of the disease are: the enlargement of the thyroid; cures and myxedema which have resulted from removal of the gland or destructive changes in it. Opposing this theory is the fact that Graves' disease may exist without thyroid enlargement.

Symptoms of exophthalmic goitre have resulted from overdoses of thyroid in normal individuals, and in treatment of simple goitre. If it is due to excessive thyroid secretion the question still confronts us, What causes the disturbances of the thyroid function?

Morbid Anatomy.—The thyroid may show changes from simple congestion to the most destructive changes. The vessels are thickened and dilated, the veins on the surface are large; the tumor is very vascular. On section it exudes less colloid substance than normal. The general appearance has been compared to that of the mamary gland during lactation. There is active connective tissue poliferation. The number of alveoli is increased, not only by total increase of gland, but there are more in an equal area than in a normal gland. The walls of the alveoli covered with the secreting epithelium form folds and project into the alvioli, encroaching upon the storage space of the colloid substance. By these folds the secreting part of the gland is increased. The epithelium is changed from flat to columnar. Instead of the alveoli being filled with colloid substance, they are partially empty, showing a rapid removal of secretion; the secretion is more watery. In an old standing case where the symptoms

are subsiding and the patient on the way to recovery, the alveoli diminish in number and a condition of fibrosis takes place. If the fibrosis advances too far symptoms of myxedema develop.

Symptoms.—There are five cardinal symptoms: goitre, exophthalmos, tachycardia, fine tremor and elevation of temperature. To these may be added a disturbance of function of almost every organ in the body. The onset may be sudden, but as a rule it is more gradual, and may be chronic from the beginning. All of these cardinal symptoms may be present—any one or several of them may be absent. Of the five, tachycardia may be the only one present. It is the only one of the five, taken alone, that is essential. In the beginning the goitre may not be noticeable or may not appear, or appear at intervals. The cardiac disturbance may be the first symptom to appear. The pulse becomes rapid, 120 to 130 to the minute; 150 to 200 has been observed. The rythm as a rule is regular; but it may be greatly disturbed and the heart's action be tumultuous. Murmurs are sometimes heard. The victim may be conscious of pulsation in almost every artery. In Pæsler's statistics of 58 cases, 57 showed tachycardia. The exophthalmos may appear before the goitrous enlargement, or simultaneous with it, or may not develop at all. Here we are apt to make a mistake in our diagnosis. Both eyes are usually affected. Where there is no ocular disturbance the gravity of the disease may be overlooked and the disease be mistaken for simple goitre. The tachycardia, tremor and rise of temperature should point to Graves' disease. The ocular protrusion and inability to close the lids cause inflamatory conditions. There are motor disturbances of the eyes.

The entire muscular system is affected. A fine tremor is a very constant symptom. It may affect the hands only or the whole body. A slight elevation of temperature is generally present. Often before any of the cardinal symptoms develop the patient may present mental excitation, im-

pulsiveness, restless activity, emotions easily excited, irritable, fault-finding, ungrateful and generally hard to live with. In some cases the excited mentation goes into insanity. Undue mental stimulation is characteristic of this disease, as mental apathy is characteristic of myxedema.

In some cases the skin is marked by increased pigment, sometimes resembling the bronze-like appearance in Addison's disease. Anæmia and loss of flesh may develop; vomiting and diarrhœa may occur.

George B. Murray, of London, says: "The most rational explanation of the complex symptoms of this disease appears to be that they are due to an excessive formation and absorption of the thyroid secretion, which may or may not be altered in composition, and to the constant excess in the blood and its action on the metabolism generally, but more especially of the nerve centers in the medulla."

Treatment.—Medical treatment is not very satisfactory.

Rest and quiet are of the greatest importance. Some cases rapidly recover under Wier Mitchell's rest cure. Few patients can afford this plan of treatment. Rest in bed for six months with large doses of belladonna to check the hypersecretion has been used successfully. If the heart symptoms have been severe convalaria has been of most service. Strychnia, digitalis, stophanthus act favorably on the heart in some cases. Where there is much nervousness the bromides have done good. Inunctions of the red iodide of mercury over the goitre have seemed to help in some cases. Tablets of dried thymus have been used with success. Thyroid extracts are positively contra-indicated in exophthalmic goitre—all the symptoms are increased, there being already too much of the thyroid secretion in the system.

Surgery offers the most certain hope of cure. Thyroidectomy is a very serious operation, and is frequently attended with grave results. The only operation feasible are partial thyroidectomy and extirpation of the cervical sympathetic

nerve and ganglia. The patient should have several weeks preliminary hospital treatment.

Maden has reported two deaths following the operation, from tetany and from absorption of the colloid substance by the wounded tissues.

The most common symptoms after operation are great restlessness, rapid pulse, fever and rapid respiration. These symptoms have not been observed after total thyroidectomy, showing that they are due to absorption of secretion from the wounded gland. This absorption is a real danger and should be guarded against by very careful handling of the gland, so that the colloid substance will not be squeezed out into the lymphatics and into the blood current. Free drainage should be provided for.

There is little doubt that the removal of a part of the gland is the rational treatment for this disease; but on account of the great risks the operation should be undertaken only by a surgeon who has had special training in this particular operation.

Prof. Kocher, of Bern, is the pioneer in this branch of surgery. He has treated more than 2,500 cases of goitre. Thyroidectomy for Graves' disease is becoming more popular every year. The operation is frequently done in our large hospitals.

Prof. Kocher lays down the following indications for operation:

As soon as the goitre causes dyspepsia or inflammatory changes occur, or there is the slightest suspicion of malignant degeneration. (2) All enlarged thyroids classed as deep, having a tendency to grow towards the aperture of the thorax, should be considered dangerous. (3) All goitres that have reached considerable development from the formation of a single large colloid nodes. (4) When, with moderate goitre, symptoms like Basedow's disease appear, accompanied with an increased development of the goitre.

Kocher's method of operation, which I will pass over, as usually followed, is as follows:

"The patient, having been prepared, is placed on the table, the shoulders and throat elevated, head lowered, thus bringing the field of operation well into view. The head is covered with a rubber cap which keeps the hair out of the way. A half sheet, hollowed out for the neck, is placed over the patient and held in position with tapes. The patient's face is covered to prevent contaminations from the patient's face reaching the field of operation.

A 1 per cent solution of cocaine is injected along the proposed line of incision into the skin and sub-cellular tissue. A 10 c.c. syringe with a fine needle is used. The needle perforates the skin near the median line and passes through the sub-cellular tissue till it reaches the outer end of the proposed incision, when the cocaine is gradually injected as the needle is withdrawn. The opposite side is treated in the same way. About 20 c.c. of a 1 per cent solution are used, and extremely seldom is it necessary to inject any more. A bowed incision is made with the convexity downward across the tumor from one sternocleidomastoid to the other. The incision extends through all the tissues down to the muscles of the neck. All bleeding points caught, the larger vessels being divided between the forceps, this flap is reflected upward together with the fascia covering the muscles. The muscles are now separated in the median line along the whole length of their course, as well as the outer fibrous capsule of the goitre.

If the goitre be very large and sufficient room cannot be obtained by retracting the separated muscles, their upper attachments are divided a little on each side of the line with scissors. This will give room enough, and after the tumor is removed they may be stitched back in place. The lateral lobe is now dislocated from its place by passing the finger between it and the capsule. Any veins running between the capsule and goitre are divided between forceps and carefully

ligated. By shoving back the capsule from the upper and outer horn of the lobe, the superior thyroid artery may be isolated, ligated and divided. The inferior thyroid is now carefully isolated from the recurrent laryngeal nerve and ligated. It is important at this point to have the patient say 'ah,' so as to insure the safety of the nerve. The thyroidei ima veins are clamped and divided, the isthmus separated from the trachea with the sound crushed with the clamp and ligated with a strong ligature. The clamp will crush a large isthmus to almost nothing, so that there is almost no danger of hemorrhage from this source. There only remains now a few attachments of the gland at the sides of the trachea, and it is well to leave some glandular tissue here to protect the recurrent laryngeal nerve. All bleeding points having been carefully caught and ligated with fine silk, the muscles are brought together with interrupted sutures in the median line and the skin wound closed with subcuticular sutures."

Death has resulted from thyroidectomy, from thyroid secretion being absorbed by the cut surfaces. Olmstead thinks it wise to use drainage in large exophthalmic goitre. Dr. Cushing, of the Johns' Hopkins Hospital, uses drainage.

The important points about the operation are: Asepsis, preservation of the recurrent laryngeal nerve, leaving a part of the gland to guard against myxedema, and prevention of absorption of thyroid secretion.

General anæsthesia is not usually used in this operation. Operators say their patients complain of little or no pain. These patients are stoics. There is pain, and chloroform sometimes has to be given to complete the operation. There is less danger of wounding the recurrent nerve when the patient is able to phonate during the operation. In the hands of a skilled operator this danger is not great. Even when the nerve is not cut the voice is sometimes impaired and may take months to fully recover.

The resulting scar is slight and in a year or two is scarcely noticeable.

MARASMUS.

BY E. H. BROOKS, M.D., REIDSVILLE, N. C.

There is, perhaps, no disease in the entire realm of pædiatrics which is so clogged with a mass of obsolete terms and contradictory statements as that of marasmus. The wide divergence of views of pædiatrists upon this most important disease has only served to foster controversy and to cause confusion in the minds of the profession at large. Our knowledge of this distressing condition in the past has rested very largely on authority, and too often it is the case that *what* was taught was deemed of secondary importance to *who* taught it. The name marasmus itself (meaning as it does "wasting away") is at once unscientific and misleading. A "wasting away" is a natural sequence of any disease—tuberculosis, enteric and malarial fevers, syphilis, pneumonia, etc. A study of the literature on this subject tells us that if the baby has an aggravated case of indigestion, he has malnutrition; if the malnutrition is severe and the baby dies, it was not malnutrition but inanition; that if by reason of strength he survives inanition, it is no longer that but is marasmus. I cannot believe such loose methods of distinction can find justification in sound, scientific medicine.

Holt defines marasmus as an extreme form of malnutrition in infancy, independent, so far as is known, of constitutional or organic disease—that it is a vice of nutrition only. I am inclined to think that a better definition is that given by W. Gilman[3] Thompson, who says that marasmus "is a form of starvation occurring chiefly in artificially-fed infants, but also in those at the breast, in whom there is great wasting of the muscular and other soft tissues, and sometimes catarrh of the alimentary canal." In my experience there is always more or less catarrh of the intestinal canal. Personally I

[3] Thompson's "Diet in Disease."

am very much of the opinion that marasmus is essentially a neurosis, characterized by great muscular atrophy, due to a diseased condition and starvation of the trophic nerves.

Pædiatrists are practically a unit in agreeing that marasmus presents a larger mortality than any other disease of infancy. Holt says that in his experience in four institutions considerably over one-half of all deaths of infants under one year old is due to marasmus. The experience of other pædiatrists is in line with this statement. Variot is authority for the statement that marantic infants are always incurable if they weigh less than one-half normal weight between three and eight months. Dr. Wm. J. Butler[2] says that 99 per cent of marasmus cases die at the Cook County Hospital (Chicago). While these figures are unquestionably true as regards institution work, they are misleading and have, I believe, been productive of harm. With such discouraging figures from authorities on the subject it is little wonder that the general practitioner approaches the treatment of marasmus with great trepidation, and oft-times is defeated before beginning the battle. It is manifestly unfair to assume that this high mortality rate is alike applicable to institution work and to private practice, because marasmus can be much more successfully treated in private practice than in infant hospitals. This is due to the fact that plenty of fresh air, so essential in treating this condition, is at a premium in large institutions, and it can be had in abundance without money and without price in private practice.

In all the infant hospitals in New York with which I am acquainted only 400 or 500 cubic feet of air space is allowed each infant in the wards, in spite of the fact that the marantic child should have at least 1,000 feet, even with the best of ventilation. Such conditions not only prevent successful treatment, but in many cases produce marasmus in infants previously free from the disease.

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[2] Chicago Pædiatric Society, Oct. 7, 1904.

The statement frequently made that marasmus is rarely seen in private practice is, I think, an error. While this is in the main true, I am persuaded that more cases are seen in private practice than is generally supposed. Certainly we have more cases in North Carolina than we had ten years ago. This increase, I believe, is due to the large influx into our towns of a rural class of population who move to town to work in our cotton mills. Many of the women who work daily in the mills have young babies who cannot receive proper attention are practically left to shift for themselves. This, together with the fact that there is such absolute ignorance among this class of people of the ordinary laws of health and hygiene, serves to give us a constantly increasing crop of marantic babies. For this reason the subject is of peculiar interest just now to North Carolina doctors.

Pathology and Symptoms.—Post-mortem findings are disappointing for the reason that the changes found are generally due to some intercurrent trouble which caused the death of the marantic baby. As a rule the brain is anæmic and the sinuses are filled with dark, fluid blood. Many cases show a strip of hypostatic pneumonia an inch or two wide on the posterior border of both lungs. If the baby was very young there are generally areas of atelectasis in the lower lobes. The stomach may be dilated and there is almost always evidence of intestinal catarrh. Frequently the solitary follicles of the colon and Peyer's paches are enlarged. None of these lesions are constant, but I am inclined to think that there is enlargement of the stomach and catarrh of the bowel in practically every case. In all the autopsies I have seen—possibly six or eight—both of these conditions were present.

But little need be said of the symptoms since the history and general appearance of these cases are strikingly alike. The wasted little body, sunken fontanells, hollow temples, sharp features and prominent abdomen present a clinical picture which once seen can never be forgotten. Anæmia is a

constant symptom and is generally very marked. In many cases the amount of hæmoglobin is reduced to as low as 30 per cent. If the case is severe there is sub-normal temperature, the thermometer showing a rectal temperature of 95 to 96 degrees F. Occasionally there is a general oedema involving the cellular tissue of the entire body. This is generally associated with extreme ænemia and is an exceedingly grave symptom. As would be expected, the stools frequently show mucous and undigested food. Vomiting is easily excited, and many infants decline all food. Sometimes there is a reflex spasm of the muscles of the neck, producing marked opisthotonus. In one of my cases this condition was so marked and persistent that a diagnosis of meningitis was made. Many cases simulate tuberculosis very markedly, and differential diagnosis is extremely difficult, and ofttimes impossible. The chief reason for this is the fact that so many cases present chest symptoms which are misleading. If there be dullness of the chest posteriorly it may either be tuberculosis or hypostatic pneumonia. If consolidation is manifest anteriorly your case is tuberculosis. Syphilis sometimes gives trouble in making a diagnosis. However, careful inquiry from the parents of the child as to specific or tubercular taint will generally clear up the matter.

Etiology.—In general terms it may be said that marasmus is due to one of three things, named in order of their importance: (1) Food, (2) Environment, (3) Heredity.

(1) It must be remembered that marasmus does not always mean that the baby has had too little food. On the contrary, I am inclined to believe that the condition follows the ingestion of too much food rather than too little, and that more babies are fed to death than are starved to death. Many infants have literally starved to death with a full stomach. Protracted error of diet is the certain road to marasmus. If your baby is fed cow's milk, impurity of the milk, methods of modification and feeding are all causitive

factors. If the baby is breast-fed, quality and quantity of the milk and the general condition of the mother must be considered.

Probably the most frequent cause of marasmus is the pernicious habit of taking the baby away from the breast and substituting some one of the numerous infant foods which flood the market. Too often it is the case that the baby is weaned on the score of convenience, because it is so easy; much easier to feed him from the bottle than it is for the mother to nurse him. Nothing could be simpler than to raise the baby on patent food according to "directions on the bottle." Such practices should be unqualifiedly condemned by the profession. So widespread has this evil become that many European physicians, notably Roberts[4] advocate the practice of giving donations of money to mothers who nursed their own babies. I have never seen a substitute for mother's milk, and I never expect to see one. I believe that all infant foods, without exceptino, are a snare and a delusion, and that their effects are unqualifiedly bad. I have never seen any indications for their use, and I believe any physician is censurable who does use them except in extreme cases. A glance at the charts prepared by E. E. Smith, P.H.D., for Dr. Holt,[1] comparing the ingredients of the various infant foods with those of mother's milk and cow's milk, is convincing proof of the pitiable inadequacy of patent foods to the needs of the growing baby.

Many theories, some more ingenious than scientific, have been advanced in explanation of just how a faulty diet leads up to a marantic condition. An early theory, now abandoned, was that the condition was due to tabes mesenterica; that the flow of chyle was interfered with by occluded glands, and consequently no nourishment was received from the food taken. Parrot contended that there was an atrophy of the

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[4] Scottish Med. and Surg. Journal, 1905, p. 105.

[1] Holt's "Infancy and Childhood."

gastro-intestinal mucosa. In this opinion he was sustained by Fenwick in England and Baginsky in Germany. This theory has received no support in America, and I know of no American Pædiatrist who subscribes to this view. Wentworth[5] discusses most interestingly in the *Journal of the American Medical Association* Czerney's theory that the narantic state is due to an excess of fat causing chronic acid (lactic) intoxication, ultimately impairing the function of the liver. Keller, Langstein, Vander Bergh and a host of others give support to this theory. In proof of the correctness of his views, Czerney points out that there is an increased quantity of ammonia excreted, indicating that the economy is deprived of its alkali or neutralizing agent, and consequently an excess of fat is retained. It has also been shown that there is an increase of the phosphoric acid in the urine. Salge, of Berlin, holds this view and says narantic infants bear fats so poorly that he is in the habit of placing them on centrifugated mother's milk. In this way he eliminates the cream and gives skimmed mother's milk. Czerney's theory is the newest one, and is attracting more attention than any other at the present time. It seems to be based on sound reasoning and is winning a great many adherents. All these theories are interesting chiefly for their ingenuity, but they serve to throw some light on an abstruse subject.

[2] There can be no question but that unfavorable surroundings and undue crowding are controlling factors in the heavy infant mortality in large cities. In many of our mill towns, where so many live in small houses crowded close together, we have conditions approaching in some degree, at least, those existing in the crowded tenements of the large cities. In one case plenty of fresh air and sunshine is an impossibility; in the other it is denied the baby because its importance is

[2] Chicago Pædiatric Society, Oct. 7, 1904.
[5] Journal A. M. A., Aug. 26, 1905.
[6] Corr. Bl. f. Schweiner Aezte, Nov. 1, p. 665.

not realized. Deprived of the fresh air and sunshine that rightfully belongs to him, the baby soon becomes an easy prey to gastro-intestinal disorders and attending ills.

[3] Heredity as a causative factor has not, I think, received proper attention at the hands of the profession. Illegitimate offsprings of immature girls are especially prone to marasmus. Even when old enough for maternity many women are still immature through lack of physical development incident to a life of constant drudgery unrelieved by fresh air and favorable hygienic surroundings. Many women begin work in cotton mills when at a formative period, and are thus arrested in development and unfitted for maternity. The evils of child labor have lately become of widespread interest, and the question is not only of medical interest, but of sociological as well. The baneful effects of child labor is strikingly shown by Dr. Chas. W. Roberts, of England. He has taken into account nearly 20,000 young men. Of this number about 5,000 belong to the non-laboring class, and sometimes over 13,000 to the artisan class, workers in cotton mills. The difference in height, weight and chest girth from 13 to 16 years old is shown as follows:

Height (Inches).

	Age 13.	Age 14.	Age 15.	Age 16.
Non-laboring class	58. 79	61. 11	63. 47	66. 40
Artizan class	55. 93	57. 76	60. 58	62. 13
	3	4	3	4

Weight (Pounds).

	Age 13.	Age 14.	Age 15.	Age 16.
Non-laboring class	88. 60	99. 21	110. 42	128. 34
Artizan class	78. 27	84. 61	96. 76	108. 70
	11	15	14	20

Chest Girth (Inches).

	Age 13.	Age 14.	Age 15.	Age 16.
Non-laboring class	28. 41	29. 65	30. 72	33. 08
Artizan class	25. 34	26. 28	27. 51	28. 07
		3	3	5

[3] Thompson's "Diet in Disease."

The deductions to be drawn from the above tables are startling, and furnish much food for thought. If these figures are true as regards boys, it is only fair to assume that the comparison would be even more striking if girls were taken into account, since it is a well known fact that arrested development is more easily produced in girls than it is in boys. Women who are themselves more or less narantic can not be expected to bear healthy children if there be any truth in the medical dictum that "like begets like."

Treatment.—Is essentially dietetic. Since the condition starts from an error of diet, the error should be sought out and corrected. If the baby is breast fed, and a large proportion are in my experience, effort should be directed to improving the quality of the mother's milk. Diet, hygiene and strict observance of the laws of health should be the means employed. Galactogogues, in my opinion, are useless, and I have long since abandoned the malt products for this purpose. In this connection it is interesting to note that Dr. Southworth, of New York, says that corn meal gruel is the best thing he ever tried to increase the flow of milk. Two cupfuls should be given twice a day. I have tried this treatment in three cases with great success. Certainly the treatment is simple enough to warrant a trial.

If the mother can not nurse her child the next best thing is to get a wet nurse. This is of extreme importance if the child is less than six months old. Unfortunately this is sometimes impossible because marasmus occurs most frequently among those who can not afford the expense of a wet nurse. If a wet nurse can not be had recourse must be had to artificial feeding. Modified cow's milk should invariably be first choice. No set rule can be given as to just how the milk should be modified. A discussion of this would more than fill in the time allotted to this paper. The milk must be fitted to each individual case. One cardinal rule should be observed: modify the milk so that you have a low per cent

of fat and proteids and a relatively high per cent of carbohydrates. It is a well-known fact that marantic infants have great trouble digesting fats, but have little trouble with carbohydrates. It was formerly my custom to give a 4 per cent cream mixture as a routine treatment. I have since learned better. Care must be taken not to overload the infant's stomach. Do not fall into the grievous error of allowing the age of the child and its weight to fix your choice of milk modification. Nothing is more fallacious. Rather be guided by the digestive and assimilative powers of your infant, and give what can be digested without leaving a residue. Many cases do well on pasteurized or peptonized milk. M. Perret[6] says that pasteurized milk not only does no good, but sometimes its use is dangerous. Schlesinger, of Strassburg, strongly advises the use of whole milk, claiming that it is very successful in his hands. It seems to me a risky procedure except in extreme cases. Some authorities report great success with the so-called buttermilk cure. I have tried it in three cases, and was pleased with the results. According to Prof. Stoos the milk should be prepared in this way: to a litre of buttermilk add a tablespoonful of fine rice or wheaten flour. The mixture is heated and allowed to come to the boiling point three times, and must be stirred constantly; and two tablespoonfuls of cane sugar. I believe this a valuable mixture unless there be acute diarrhoea and vomiting.

As a rule, patient investigation and diligent effort will find some form of cow's milk that will agree with the marantic infant. However, there are a certain number of cases so perverse that no possible modification of cow's milk is tolerated. In these cases, fortunately rare, some observers claim good results with goat's milk. Dr. Bell,[7] of New Jersey, claims that goat's milk fat, like that of human milk, contains less stearin than cow's milk fat, and notes that it remains fluid

[6] Journal A. M. A., Aug. 26, 1905.

[7] N. Y. Academy of Med., Jan. 11, 1906.

at a much lower temperature. Chapin calls attention to the use of asses milk, but it is too impracticable to consider seriously. Dr. Cooper [8] claims that the nearest approach to human casein is the casein of hog's milk. He claims to have wonderful success in a few cases. I believe it was the late Dr. Leidy who said that the anatomy of a hog resembles that of a man more than any other animal, and that this is not the only point of similarity between the two animals. In my experience, if you can not get a wet nurse and no form of cow's milk is tolerated, your case is sure to die, no matter what course of treatment is pursued.

Drugs have a very limited field of utility in marasmus. I have never seen any great benefit follow the use of any medicine. Cod liver oil is thought by some observers to be of service. It should not be given if your baby's tongue is not clean and his digestion good—a combination rarely seen in this condition. I never use any fats except by inunction. This is good practice when you have a subnormal temperature. It also feeds the starved tissues and the accompanying massage is good for the atrophied muscles. Arsenic seems to do good sometimes, especially when a catarrhal condition is manifest. Good brandy helps some cases, and I have occasionally thought the use of syrup of lacto-phosphate of calcium was beneficial. Frommur's Malt sometimes helps.

Recently I have become very much interested in the subcutaneous injection of sea water in the treatment of infantile debility as devised by M. O. Mace and R. Quinton.(9) The original experiments were conducted at the Paris Maternity Hospital upon forty infants, suffering from all kinds of chronic diseases, including marasmus. Under this treatment the average daily gain in weight of the little patients was 140 grains, and improvement was marked and seemed to be permanent. The only treatment given was the injection of salt

[8] Phila. Pædiatric Society, Dec. 12, 1905.
[9] Medical Press, Jan. 5, 1906.

(sea) water. The method of administration is extremely simple. The water is injected under the scapular every second day. For an infant weighing four pounds 10 c. c. is a dose. This water is entirely devoid of toxicity, and the white corpuscles wax fat in it. No possible harm can come from this treatment. According to Hallion an animal can be injected with its bodily weight of sea water without harm. This treatment promises well, and is certainly worthy of trial.

Prophylactic and hygienic treatment is of vast importance and must not be overlooked. Intelligent co-operation on the port of the parents of child is also of paramount importance.

INCIDENTAL OBSERVATIONS ON HYDROPHOBIA.

BY DAVIS FURMAN, M.D , GREENVILLE, S. C.

It shall be my endeavor to refresh your minds on this much neglected though important subject by calling attention to some well-established views concerning this disease; gathered from the rather scanty and scattered literature, as well as to report a case of hydrophobia, with some inferences drawn therefrom.

History.—Records of this most fatal of maladies come to us from the remotest medical history. In an ancient Hindu work, possibly ten thousand years old, appears an account of it. Selsus also describes it and Aristotle (322 B. C.) gives a clear account of it. The human mind found, from its first manifestations of the occult, discovered in the mysterious origin, the spectacular and terror-inspiring and horrible symptoms of this disease, a favorite theme. The dark ages, reveling in superstition, mythology and witchcraft, attached to this fearsome disease all that wierd and excited fancy could conceive. Strangely the mind seems loath to abandon the ghost stories of infancy, and the races show the same tendency to cling to the legendary delusions, a legacy from a credulous past.

And now, when vaunted reason is supposed to usurp unquestioned sway, and science demands of her votaries that to the test-tube, the microscope and the principles of broad induction, everything must be submitted that comes within her jurisdiction; there are not a few, and some in our own ranks, who still adhere, with regard to this disease at least, to some of these long-cherished myths.

Prominent among these delusions is the idea that rabies is of spontaneous origin; that it belongs to a certain season of the year; that it is characterized always by snapping and

foaming at the mouth; that the rabid dog "can not cross water," and always manifests a dread of it, etc. And I regret to record that in my State, and I dare say in North Carolina also, these and a few otherwise fairly intelligent members of our profession who to this day jealously guard and keep, and in all seriousness apply to misguided credulity at least one charm, one fetich, a heritage about which superstition has placed a halo and ignorance still worships, the mad stone. While intelligence smiles at such simple and apparently innocent faith, yet such confidence is fraught with great danger, in that those trusting to it often forfeit their lives by failing to seek the only remedy.

With eyes closed to the light there are yet some who essay even to question the existence of such a disease. The reasoning on which their uncertainty is based would as well cause them to doubt the existence of Asiatic cholera or the Egyptian pyramids. To the latter class belonged many able men of a few centuries ago, when the knowledge of the subject was in a chaotic state; for the rabies prevailed in nearly every country in the world. Little effort at systematic study of it was attempted until the early part of the last century. At that time Zinke, Rey, Renalt and Magendie did valuable work; to be followed by the great work of Pasteur. Of him Prof. Chas. Richet, while recounting the remarkable achievements and great good resulting to the whole world, said, among other things, "that the apogee of the glory of Pasteur was the discovery of the treatment of hydrophobia."

As the case that came into my hands presented the classic symptoms of the disease and was remarkable for its protracted period of incubation, I will read the report made at the time to the Greenville County Medical Society, and will then discuss the features relating to the period of incubation.

On May 4th, 1905, with Dr. Giles, I saw Vesta Hetherly, aged four years. She had the following clinical history:

On April 30th, 1905, she complained of slight malaise, though she was able to go about the house. At night she was rather restless, and on the following morning nervousness was more pronounced; was feverish and inclined to lie down. And in the evening, in spite of great thirst, manifested difficulty in swallowing. On the following morning she was seen by Dr. Giles, who found her very nervous; becoming much more so on any attempt to swallow liquids; and later in the day this symptom made it almost impossible to administer medicines. At this time her temperature was 101. At 9 a. m., May 4th, I saw her and noted the following symptoms: Facies. Expression pinched and anxious, picking at nose, across the center of which was a large hyperæmic scar (this I learned had been red for the last five or six days); from the left nostril exuded a frothy muco-purulent discharge; conjunctivæ slightly congested; slight discrepancy of pupils, which responded poorly to light; there was no rigidity of the spine, jaws or arms. Hyperæsthesia marked. Axillary temperature, taken with difficulty, was 101½ F.; pulse, 120. On being asked if she was thirsty she replied in the affirmative, became agitated and said, "but I don't want to drink now."

When liquid was presented the agitation increased to a rigor, and when the cup was put to her lips, with a fearful effort, her mouth was thrown wide open, then with a sudden spasmodic movement the edge was convulsively caught between the teeth, and as the water entered her mouth a violent reflex spasm of the larynx and a general convulsion, interrupted and jerky, occurred; with a gurgling, choking noise the liquid, with a quantity of frothy mucus, was ejected from the mouth during and immediately after the convulsion; after which she gradually returned to consciousness, to remain so until liquid was again presented. Even when she was just regaining consciousness, the presence of liquid provoked immediately a convulsion similar to what has just been

described. The duration of each convulsion was from one to two minutes. In the afternoon of the same day I saw her again. By this time the psychic disturbance was much increased; the intervals of lucidity were shorter (yet, even at this time she was sufficiently intelligent to apologize to her mother for striking her, which she did as each convulsion passed off); and not only liquids, but flashes of light, sudden noises or movements, were sufficient to provoke laryngeal spasms, dyspnoea and copious discharges of frothy mucous from the mouth with violent convulsions. Temperature 104, pulse 140. Death followed a few hours later, before the parylitic stage, as the direct result of a stupid attempt of another to control the convulsions by a hot bath. Owing to the objection of the parents an autopsy was denied. The scar referred to resulted from the bite of a dog, which wandered from a neighbor's house, bit the child without provocation and disappeared. This happened on January 1, 1904, seventeen months prior to the development of the first symptom. On the period of incubation: So definite is the duration of the incubation period that it is of positive diagnostic value in most infections, as, for instance, in smallpox, scarlet fever, gonorrhoea, syphilis, pyaemia, etc., as well as in the inflammations arising from the stings of insects and the bites of serpents. But with rabies the period of incubation is very variable; it not only varies with different species, but with different individuals of the same species. In this connection Pasteur said, "the length of this period depended not on the virulence, but on the quantity of the virus absorbed," and he estimated the period in man as from forty to sixty days.

Anders says in the young the period is shorter. Bradford, in the *London Lancet*, March 3, 1900, says, "The period of incubation is from twenty to sixty days, rare after three months, still more rare after six months; in cattle one to three months; in sheep from fifteen to thirty days; in the horse from fifteen to sixty days." Prof. Horsley places the incu-

bation of hyphophobia "at not less than six months, but it may last two years." Abba states that in the dog it has been proven to last 246 days.

Dr. Salmon, Chief of the United States Bureau of Animal Industry, 1900, says, "In rare cases it has been reported on good authority that a year or even fourteen months have elapsed between the time when the animal was bitten and the development of the disease; the majority of cases developing in from three to seven weeks."

Penzoldt saw a case in man when the incubation period was eleven days, and says concerning the maximum period, "Where more than a year elapses between the inoculation and the development of symptoms, they must be accepted with caution." He also says "with children the period is shorter, especially when it results from injuries to bared areas."

From the above authorities (and they accord with most observers), with the exception of Prof. Horsley, they limit the period of incubation from eleven days to fourteen months.

In my case the age of the patient, the development and termination of the case preclude lyssophobia. Inquiry developed the fact that the little girl was an only child; that she was constantly with her mother; that until very recently they had lived in an isolated place in the mountains; that they possessed neither dogs nor cats, nor had she at any time been injured by any animal? In addition to this history, which we had no reason to doubt, the fact that the pale and almost forgotten scar became suddenly markedly hyperarmic, prior to the development of the more grave symptoms, leads me to believe that in assuming that the period of incubation in this case was seventeen months is not unreasonable. And if this is true, the case tends to negative the position that the age of the patient and the locality of the bite are especially important factors in the duration of the incubation period.

Types of the disease and the principal sources of infection.—There are two more or less distinct types of the dis-

ease; the furious or psychic form, ending in the parylitic, if death does not occur before that stage is reached; and the dumb or paralytic type from the beginning, each terminating in death before the eighth day. Anders says, "that in rodents (dumb rabies) or silent madness is the rule." (With few exceptions it is this form that appears in rabbits where subdural injections are made, and in from six to ten days from the inoculation, when the most active cords are used.) It is frequent in the herbivora; less so in the carnivora, where the former type is more common. No animal possesses natural immunity to this disease. However, since 90 per cent of all cases of hydrophobia result from the bite of the dog, it is incumbent on us, in order to fulfill our duty to those who look to us in time of distress, to familiarize ourselves with the evidences of the disease in that animal. Rabies is characterized, 1st, by a period of depression; 2d, by a period of restlessness or irritability, and, 3d, by a period of paralysis. During the first period the dog is anxious and restless; often hides from his master; obeys sullenly; changes position frequently; may or may not lose appetite, although this soon fails. He may show undue affection, licking everything in sight or bite everything in reach, or swallow all sorts of foreign bodies. The second, or period of irritability, persists three or four days; during this time he is spasmodically mad and has an irresistable tendency to wander. The third or paralytic stage is marked by a hanging jaw, from which saliva drops, by glaring eyes, dilated pupils, and a staggering gait, and finally by complete paralysis. In dumb rabies the features of the second stage may be entirely absent.

In the more advanced stages of either form the bark is changed and dogs evince no evidence of pain nor do they abandon a purpose on being injured. Reports from many veterinarians show that dogs afflicted with the latter form are often brought to them for treatment under the supposition that they are suffering with a bone in the throat.

Dr. Salmon says, "Difficulty in swallowing; or after an absence, if the dog returns dirty, exhausted and miserable, he should be put under lock and key." Also, "Beware of the dog that becomes listless and hides away, is prowling in habit or walks about with his head down like a bear." And Dr. Roswell Park says that the popular belief that the rabid dog abhors water has long since been proven erroneous. On the other hand, he is thirsty, and is sometimes very fond of water, even thrusting his head into it, though he may have difficulty in swallowing or a convulsion from so doing."

Prevalence of the disease and measures to repress it.—With the exception of Lapland, Australia and the Islands of the Pacific, Sweeden and England, rabies prevails in nearly every country in the world. Where it does not exist the freedom it is due to the fact either that the disease has never been introduced or it is a testimony to the effectiveness of repressive measures.

With regard to the possibility of getting rid of the disease, experience in the last-named places is of great interest. In Sweden the disease existed to such an alarming extent that strenuous measures were adopted and the disease disappeared. While desiring not to burden you with statistics, yet with regard to the history of rabies in England, figures speak so eloquently that I shall briefly present them.

Previous to 1885 hydrophobia had increased to an alarming extent. In London alone no fewer than 27 deaths in human beings were reported as due to the bites of rabid dogs. A muzzle order was enforced, and at the end of 1886 not a death was recorded.

"Unfortunately, the order prescribing the use of the muzzle was rescinded, and in a few months a case of hydrophobia occurred in South London, to be followed by others, and, in 1887, ten deaths were registered.

In July of that year the muzzle order was again issued and stringently carried out, and rabies and hydrophobia once more

disappeared. In the whole of Great Britain the result from enforcing the muzzle order was phenomenal, both in the opposition encountered by the authorities and in the successful eradication of the disease. The number of rabid dogs officially reported was in 1887, 217; 1888, 160; in 1889, 312. In the last-mentioned year muzzling was adopted, and the number of cases fell to 129 in 1890; 79 in 1891, and 38 in 1892. Then, owing to persistent opposition muzzling was stopped and the effect of the withdrawal of this measure was at once noticed in the increase of rabies. In 1893 there were 93 cases, in 1894, 248, and in 1895, 672. At this point, owing to public alarm, muzzling was again enforced, reducing the number of cases in 1896 to 438, in 1897 to 151, in 1898 to 17, in 1899 to 9. As no case was discovered from November, 1899, to March, 1900, it was believed that the disease had been extinguished in Great Britain."

Since that time rigid quarantine has been enforced against all dogs imported. Reports gathered by the Bureau of Animal Industry, from the veterinary colleges of the United States, show that rabies prevails in almost every State and Territory of the country. The vital statistics of the Census 1880 to 1890 show that in the United States 143 deaths from hydrophobia in man, and from 1890 to 1899, application made to the health officers of the principal cities of the United States showed that during the nine years, from reliable sources, there were in 73 cities 230 deaths from hydrophobia, after eliminating the cases of doubtful diagnosis. And now it is about 50 per annum, in spite of the great number who would swell that list were it not for antirabic vaccinations. It is plain, therefore, that the disease is greatly on the increase in the United States.

Of the pathology of the disease I shall only say a word. While a bacillus has been described, doubt remains as to its causal relations. In the cerebro-spinal and sympathetic gan-

glia are certain recognized changes. Consisting in atrophy and destruction brought about by new-formed cells derived from the capsule which appears between the cell body and its endothelial capsule. The new-formed cells increase in numbers, invade the protoplasm and finally completely occupy the capsule (as seen in illustration). These, however, are later changes not seen in first few days.

Treatment.—Prior to the brilliant advance made by Pasteur in prophylaxis, the treatment consisted in local applications generally to be followed by measures to soothe the hopeless victim's last drèad hours. And now, local treatment is by no means insignificant. On this point Penzoldt says: "The value of cauterization on animals has taught that it only succeeds with certainty if the caustic is applied in the first few minutes after infection has taken place; that with every hour lost results become more uncertain and disappear entirely after a day."

In case of a doubtful wound, permit free bleeding; wash quickly with one per cent bichlor. sol. or other potent antiseptic; apply actual or thermo cautery or caustic potash or fuming nitric acid, "do not use nit. silver." After which dress wound antiseptically and send patient along with head and neck or brain and medulla of the animal if dead, to have Pasteur treatment administered. If the dog can be taken alive it should be kept under observation for at least a week, as "the saliva of a rabid animal may be virulent three days before the appearance of any symptoms of the disease" and "the lesions which allow a diagnosis to be made within twenty-four hours may not be present in the early part of the disease."

In a letter, Dr. George Gibier Ramand, of the N. Y. Pasteur Institute, in reply to an inquiry, says: "I should say up to date about 200,000 persons have undergone Pasteur treatment with a mortality varying from 0.20 to 0.70 per cent." Even with this small mortality many cases are sent

too late and should not be instanced as failures of the treatment.

This is especially striking when we remember that the mortality without treatment is variously estimated from 20 to 90 per cent, according to the extent and locality of the inoculation. Some statistics from Georgia, fairly representing the conditions elsewhere, may be of interest.

In 1900, just prior to the establishment of the Pasteur Institute, there were eleven deaths in that State from hydrophobia; the next year there were five; in 1902, 4; in 1903, 3, and in 1904, 3.

That Institute has treated 410 cases with two deaths and one of them died before immunity could be established. The last 118 cases have been treated without a single death, while of fifty-nine not treated fifteen dies. "This Institution has been the means of saving at least thirty lives in Georgia." The experience in other Institutes harmonizes with that of the Georgia Institute, in all of which the treatment is essentially the same. During nearly sixteen years, since its establishment, the New York Pasteur Institute has given the preventive treatment to 1,608 persons, and from January, 1902, to December, 1905, 482 cases have been treated with one death or 0.20 per cent.

In a report of the New York Pasteur Institute Dr. Ramand says, touching the danger of the treatment, "It may briefly be said that the antirabic vaccinations may cause slight nervous disturbances in nurasthenic and hysterical persons; these disturbances, however, have never been serious, and are extremely rare.

While your patience is exhausted by my attempt to compass so much of this important subject, yet I feel that I must detain you a little longer.

Inasmuch as it is rather rare that the rabid dog, until far advanced in the disease, bites his own master, there is comparatively little danger from high-bred and valuable

dogs, since they are constantly under the surveilance of intelligent owners who know their habits and promptly recognize in them any departure from the normal, and who also know that a dog bitten by a suspicious animal should be killed or closely confined for many months: but in the South with our negro population around few of whose abodes do not exist from one to a dozen neglected canine mongrels, maintaining themselves by wandering great distances for food, conditions are rife for a fearful spread of the disease.

We boast of our quarantine system and point with just pride to its achievements in excluding from our borders leprosy, bubonic plague, etc., and of its efficiency in managing typhus and yellow fever when they occasionally gain entrance to our coast cities, yet we have in our midst a preventable disease; which has cost hundreds of lives, which constantly menaces, more especially the children. And what is being done to arrest it? Is not our profession, the sanitary guardians of the commonwealth, falling short of the demands of modern civilization and of the confidence and trust imposed in it by the respective communities and of its duty to the State by its inaction in this matter?

Are we not, by our silence, giving consent to this almost criminal disregard and indifference to a needless sacrifice of human life?

I was glad to hear Dr. Murphy say that the doctors of North Carolina can do, in politics, anything. If this is true then we, as physicians, are entirely responsible.

TREATMENT OF ACUTE ARTICULAR RHEUMATISM.

BY W. H ANDERSON, M.D., WILSON, N. C.

The importance of this subject is due, not so much to the inflammatory condition, known as acute articular rheumatism, but to the deleterious after effects on the heart. Acute articular rheumatism is invariably given as the most important etiological factor in the production of valvular heart lesions, especially in the young, who might otherwise escape. So far there is no satisfactory treatment by which heart complications can be prevented unless it is prophylactic measures, which are without doubt our greatest safeguard. There can be no perfectly rational treatment for acute rheumatism until its etiology has been established. At present it is most generally believed to be a germ disease, the specific bacillus not having as yet been isolated. There are others, however, who still believe it to be due to nonneutralized acid products, the result of faulty metabolism, especially of proteids. The treatment which follows is based on the belief that both of the foregoing are etiological factors; that a condition of hyperacidity furnishes the most suitable medium for the growth and proliferation of the germ.

Prophylaxis, which may be termed the *piece de resistance* of this paper, since to prevent is to exclude a large number of heart cases, suggests itself only in those who through heredity are supposed to have the rheumatic diathesis and in those who have had a previous attack. With such a patient the prohylactic measures are hygienic, dietetic and medicinal. He should occupy a large, airy room, which can be kept dry, a room on the second floor being preferred since they are usually dryer than those on the first floor. Flannel should be worn next to the skin to prevent chilling from exposure to cold and dampness, either of which will precipitate

an attack more quickly than anything else, for which reason it is desirable to avoid such exposure.

The diet should be rich in certain basic constituents of food which will correct the conditions of hyperacidity and reduced alkalescence, with a minimum of animal proteid. Potassium and sodium compounds are the chief elements in maintaining alkalescence of the blood and at the same time rendering the tissue fluid alkaline, which is absolutely essential to normal metabolism. This is accomplished in a measure when the salts of these two are given as drugs, but incomparably better when they are in organic combination with vegetable proteid as provided by nature, for then they are assimilated and stored with the proteid and are present to neutralize the acids of metabolism as they are produced. The potassium compounds necessary for the human economy are taken in with foods, while the sodium compounds are furnished by the oxidation of vegetable acids. Vegetable food contains from three to four times as much potassium as animal food and furnishes vegetable acids, which by oxidation, furnish the sodium compounds. The chief source of the latter, however, is from fruits, since they are especially rich in vegetable acids. Based on these facts the diet should contain a minimum of animal proteid with a generous allowance of vegetables and fruits, chicken, fish, oyster, bread, cereals, vegetables, fruits and milk form a suitable diet. Pastries, sweets, fried food and alcohol should be forbidden, especially the last, since it retards oxidation and so injuriosuly affects the liver.

Medicinal measures are usually not necessary if the proper precautions as to clothing, exposure to cold and diet are faithfully carried out. However, it is a good precautionary measure to frequently test the patient's urine for hyperacidity, which is usually a fair index to his condition. This can usually be corrected by the use of the various alkaline mineral waters, or by giving drachm doses of a solution contain-

ing 5 grains each of the acetate, bicarbonate and citrate of potash to the drachm. If in addition to this the patient drinks a sufficient quantity of water the kidneys are kept in a state of activity.

The bowels should be kept open with Epsom salts or sodium phosphate, for it is impossible to over-estimate the importance of keeping the organs of elimination in the best possible condition. And, finally, that household remedy, bi-carbonate of soda, is never amiss in any stage during the treatment of rheumatism, helping as it does to maintain that alkaline condition of the secretions so desirable in this disease.

Those in general are the prophylactic measures to be used, and if successful the chief source of dangerous heart lesions will be eliminated.

The treatment of an acute attack of rheumatism is practically agreed upon. The patient is put to bed in a large, dry, sunny room. He is placed between woolen blankets and dressed in a light flannel night-gown with open sleeves which may be pinned with safety pins. These measures are useful to prevent the chilling and discomfort following the drenching acid sweats characteristic of the disease. The affected joint is wrapped in cotton batting, and if desired a splint applied. Should these not be well borne hot fomentations are applied locally, or a solution of menthol, chloral, alcohol and camphor water used.

Free purgations is secured by calomel followed by Epsom salts. The bowels are kept open throughout the course of the disease by broken doses of salts, a teaspoonful of the saturated solution being given often enough to get from three to five movements a day. After the first few days, however, if the acute symptoms are subsiding, such free purgations are usually not necessary.

Pain, which is by far the most distressing symptom, is controlled by the salicylate of soda. At times during the initial stage it is necessary to give one-eighth grain doses of

morphia hypodermatically for temporary relief until the salicylate can be administered in sufficient quantities to afford more lasting results. The salicylate in ten to fifteen grain does is given with a glass of alkaline mineral water every two hours until the pain is under control. As soon as this happy result is secured the dose is decreased and the intervals at which it is given are lengthened. If the intestinal tract has been emptied and all the organs of elimination are performing their duties well, the probability of gastric irritation will be greatly lessened. However this may be obviated at times by giving the drug with a half glass of milk, to which carbonated water has been added. Since the sole action of the salicylate is to relieve pain it is necessary to given ten grain doses of sodium bi-carbonate to combat the condition of hyperacidity. At the same time alkaline mineral water is given *ad libitum,* and should these not prove sufficient to render the urine alkaline, or neutral, five grain doses of the acetate, bi-carbonate and citrate of potassium, in solution, are given. Throughout the course of the disease the urine should be kept alkaline or neutral if possible.

The fever is allowed to take care of itself since as a general thing it is not high and if it is does not persist. Should hyperpyrexia be present it is treated in the usual way by sponging cold baths or cold packs.

During the acute stage of the disease milk is the sole article of diet, and even this should be withheld until the alimentary tract has been emptied and cleansed. Lemonade and orange juice may be freely given, and after the acute symptoms have subsided vegetable soups and fruits are allowed. As soon as convalescence is established vegetable soups, cereals, green vegetables and fruits are given, which diet after a few days, if there is no sign of relapse, may be increased by the addition of fish, chicken and oysters. The return to a full proteid diet should be very gradual and discontinued at the first sign of relapse. Where the patient is not sufficiently well nour-

ished on a non-proteid diet it is necessary to increase the amount of proteid earlier after the acute symptoms have subsided. Throughout convalescence the patient's bowels are kept open by small, repeated doses of a saturated solution of Epsom salts, and the urine is kept neutral or alkaline by alkaline mineral water.

Usually a profound anemia follows an attack of acute articular rheumatism, which necessitates the use of some preparation of iron. Blaud's pills are satisfactory in adults, while the syrup of the iodide of iron is used in children, and if at the same time Fowler's solution is given the damage to the red blood cells is repaired and recovery materially hastened.

To insure against a relapse and to obtain the speediest return to a state of health, it is best to keep the patient in bed at least a week after the acute symptoms have subsided and the temperature is normal. The greatest precaution should be taken against exposure to cold and dampness, and this same vigilance should be maintained for weeks after an apparent cure is well established.

The stethoscope should be constantly used during an attack of acute rheumatism, whether the attack is severe or mild, and at the very first sign of cardiac distress prompt measures should be employed to afford relief. The necessity for this is apparent when it is remembered that at times, although the rheumatic symptoms are obscure and insidious, the cardiac lesions following may be most extensive, entailing upon the patient an existence of discomfort and despair; while the futility of a hopeful prognosis will be ever present to disturb the mind of the attending physician. To know that in a great many instances the possibility of such a state of affairs may be avoided by the prevention of rheumatism is to recognize the fact that, after all, as has been said, prophylactic measures are the most important in the treatment of acute articular rheumatism.

SCARLATINA.

BY CHAS. G. BRYANT, M.D., ROARING RIVER, N. C.

Scarlatina is a febrile affection, which derives its name from the bright scarlet eruption with which the whole surface of the body becomes covered. The disease varies consiberably in the violence and danger of its symptoms in different cases. It may appear under a very mild form, without any disease of the throat, or accompanied with very considerable pain and swelling of the fauces, and occasionally, when it occurs as an epidemic, the affection of the throat assumes a very dangerous and malignant character.

Scarlatina is propagated by a specific contagion, like small-pox or measles, and like them is believed by the best observers to attack a person only once during life; though the apparent exceptions to this remark are more numerous in scarlatina than in the other diseases above-mentioned. On the third or fourth day after exposure to the contagion of scarlatina a feverish attack occurs; and about the second day of this fever a bright scarlet rash appears on the surface of the body, as well as within the mouth and about the fauces. The milder form of scarlatina is distinguished by the rash with a moderate degree of fever, and with very little affection of the throat. The rash first appears in innumerable red points about the neck and face, and by the next day they are seen over the whole surface of the body. About the fourth day the eruption is at its height, and on the fifth it begins to decline. The surface of the fauces and mouth appears red, and little red points appear on the tongue, rising up through the white crust which covers it, and when this crust comes off the whole surface of the tongue is red and sore, and the points are still prominent, giving to it an appearance like that of a strawberry. There is sometimes considerable swelling of the face and of the throat. This constitutes the

mildest form of the disease; one indeed so mild as hardly to require the aid of medicine; but one, nevertheless, in which, by mismanagement and officiousness, the feverish symptoms may be considerably increased, and some inconvenience if not danger induced. To prevent this the patient should be kept cool and quiet; should not be overloaded with bed-clothes; his diet should be sparing, and cooling drinks and mild laxatives should be recommended. In other cases of scarlatina the febrile symptoms at the commencement are more severe; there is a sensation of stiffness and pain on moving the neck, and it is also painful to swallow; the voice is thick and the throat feels rough and straightened. The heat of the surface rises in a most remarkable manner; not only to the sensations of the patient or observer does the heat seem greater, but the thermometer shows it to be 106 or 108 degrees; that is more than ten degrees above the natural standard. There is sickness, headache, great restlessness and delirum; the pulse is frequent, but generally feeble, and there is great languor and faintness. The tongue is of a bright red color, especially at the sides and extremity, and the rising points are very conspicuous. The rash does not appear so early as in milder form of scarlatina and is seen in patches, very frequently about the elbows. Sometimes it vanishes and appears again at uncertain times, without any corresponding change in the general disorder. When the rash is slight or goes off early there is little scaling off the skin; but in severe cases large pieces of the skin comes off, especially from the hands and feet. I have seen a specimen of an almost entire epidermic covering forming almost a natural slipper from the foot of a negro girl eight years old. But it is comparatively seldom that such perfect moulting takes place. The desquemating process is usually completed in a fortnight from the commencement of the disease. The swelling and inflammation of the throat sometimes go off without any ulceration; but at other times slight ulcerations form on the

tonsils, and at the back of the mouth, and whitish specks are seen intermixed with redness from which a tough phlegm is secreted which clogs the throat and is very troublesome. This kind of scarlatina is not unfrequently followed by great debility, or the occurrence of other diseases as inflammation of the eyes or dropsy or an inflammatory state of the whole system. In other cases the throat is greatly swollen and within assumes a black color; the patient discharges from the mouth and nostrils a dark putrid sanies, occasionally mixed with dark colored blood; the breath is offensive; the pulse small and quick and the face tumid and of a leaden or violet hue; and the patient frequently dies from suffocation at an early period.

In the treatment of this disease it is, in general, proper to begin with giving an emetic, especially if we at all suspect that the stomach is overloaded with indigested matter; and we are very soon after to exhibit laxative medicines, which are truly one of our most important remedies in this disease. A dangerous exhausting looseness, which takes place towards the fatal termination of ill-managed scarlatina, for a long time excited great fears and prejudices against the use of laxatives in this disease; but better observation has shown that so far from being detrimental laxatives, early and prudently administered, have the best effect in migrating the disease and in preventing the collection of that putrid and offending matter in the bowels, which is so sure to produce wasting diarrhœa when it is suffered to accumulate. To lessen the burning heat of the skin nothing is at all comparable to the free application of cold water by affusion, which, when employed prudently and at the proper time, cools the surface; and from a state of the most painful and restless irritation restores the patient to comparative ease and tranquility. It is in scarlatina that the powerful remedy of the cold affusion has maintained its ground; in all cases accompanied with increased and uniform heat and dryness

of the surface, it should never be omitted as its salutary effects are speedy and certain, and nothing else with which we are acquainted is capable of affording such immediate and permanent relief. And till the heat of the body is reduced it is in vain that we give internal medicines to procure perspiration or to allay restlessness and induce sleep. After the cold affusion it is not at all unusual for the patient to fall into a gentle and refreshing sleep and a mild and breathing sweat to come out over the whole body. This supersedes the necessity of soporific and anodyne medicines: and provided we attend to the bowels, keep away stimulant and nourishing food and employ the proper gargle for the mouth and throat, very little else will be required in a large number of cases. The inflammatory state of the system, which often follows scarlatina, is not unfrequently accompanied with a swelling resembling dropsy, but we are not to regard this last as a sign of debility or to be deterred in consequence from the use of very active remedies. Brisk purgatives are to be freely administered, and the inflammatory and dropsical tendency to be combated by the use of diuretics. When the inflammatory action has subsided and the dropsy appears to be the principal malady, we are to give tonics and nourishing diets, with medicines to increase the flow of urine. If there seems a determination to the head, our practice must be decided and active and consist of purging and cold applications to the head, according to the urgency of the symptoms.

In the more malignant forms of scarlatina the symptoms are more rapid and severe, the general system is much oppressed; the throat and neighboring parts are affected with rapidly spreading ulcerations. It is this which has obtained the name of putrid sore throat. This form begins like the preceding, but on the second day shows symptoms of peculiar severity. The rash is usually faint, and the whole skin soon assumes a dark or livid red color. The heat is not so great

nor so permanent as in the other varieties; the pulse is small, feeble and irregular, there is delirum and coma, the eyes are suffused with a dull redness, there is a dark red flush on the cheek, and the mouth is incrusted with a black or brown fur. The ulcers in the throat are covered with dark sloughs, and surrounded by a livid base; a large quantity of tough mucus collects in the throat, which impedes the breathing, increases the pain and difficulty in swallowing. An acrid discharge comes from the nostrils, producing soreness, chaps and even blisters. There is severe diarrhœa, spots on the skin, bleeding from the mouth or other parts; all of which portend a fatal termination of the disease. Sometimes the patients die suddenly about the third or fourth day; at other times in the second or third week; gangrene having probably arisen in the throat or some part of the bowels. They who recover have often long illnesses from the ulceration spreading from the throat to the neighboring parts, occasioning suppuration of the glands, cough and difficulty of breathing, with hectic fever.

In treating this variety of scarlatina there is a difference of opinion. An emetic should be given as soon as possible and repeated if necessary; vomiting in this disease not only tends to take off the dry, burning heat of the skin by relaxation, but unloads the throat and fauces of the fluids that gorge and distend them. Mild aperients are likewise necessary, and a combination of calomel and rhubarb is generally the most useful. Antiseptic gargles should be freely used and the room be often fumigated with the nitrous acid vapors or sprinkled with chloride of lime; and where gargling is impossible the throat should be freely washed with a muriatic acid solution several times daily, and when the state of the throat is bad the solution should be made strong and frequently used. In a few cases it is advisable to apply lunar caustic to the ulcers of the throat. Towards the decline of the disease mild, strengthening medicines may be administered, or the

carbonate of ammonia, two drachms, dissolved in five ounces of water; of which two teaspoonfuls are to be taken every three hours, according to the urgency of the case, and if the symptoms are malignant towards the decline of the disease, the throat being deeply affected with spreading ulcers, the barks, acids, together with a light but nourishing diet must be freely given.

There is no disease in which the final results are more uncertain than in scarlatina, and the physician should give a very guarded opinion as to how any special case may terminate. Whether the disease is contagious throughout its course or only at one particular period is unknown, and if the physician is asked at what period the danger of imparting the disease on the one hand, or catching it on the other, he should candidly declare he does not know. That the contagion remains attached to clothing for a long period is undoubted. Watson gives an instance of a small piece of infected flannel communicating the disease after an interval of one year. I have had one case under my own observation where it was communicated to a child three years old from a house after a lapse of nine months. The popular delusion that scarlatina is a mild form of scarlet fever should always be corrected as an error, as it might do much harm by leading to a disregard of those precautions which are always necessary in this very common disease. In these desultory lines I have quoted freely from Watson and have given my own observations during the late Spanish-American War, and my more recent practice of the disease as it occurred in the vicinity of Roaring River, Wilkes Co., N. C.

REPORT ON SURGICAL CASES.

BY D. T. TAYLOE, M.D., WASHINGTON, N. C.
Chief Surgeon Washington Hospital.

Case 1.—The first case that I wish to report is an operation for occlusion of the cystic duct, with calculi in the gall-bladder.

Mrs. B., white, age 55, much emaciated. At various times within the past two years she suffered repeated attacks of hepatic colic and jaundice. Eventually there appeared an enlargement, with tenderness upon pressure below the point of the ribs on the right side, and she complained of acute pain at times in this region. I detected an indurated mass at the lower margin of the liver, which was quite movable. The outline was rather globular below, but extended upwards beneath the liver, and inclined upon her right when patient turned upon her right side, and towards the median line when she turned upon her left side. When she lay upon her back the mass corresponded to the usual site of the gall-bladder, and could be lifted upward and forward by the fingers thrust under it. I was told by her physician that this enlargement would disappear at times, and recur at frequent intervals. Considering the great mobility of the mass, with recurrent attacks of pain and jaundice, there was strong grounds for suspected obstructed gall-bladder with retained biliary calculi, and this is the diagnosis upon which I operated. The upper right abdomen was opened and the distended gall-bladder brought into view. Introducing my finger outside of the gall-bladder I felt a number of gall-stones within its cavity, and with a view to their removal I incised that organ sufficient to admit a calculis scoop, and removed several stones. Upon introducing my finger into the gall-bladder I felt distinctly a gall-stone slightly embedded in the cystic duct, in all probabilities acting as a ball valve,

which would account for the distention and disappearance of the gall-bladder and the recurrent attacks of pain and jaundice. I succeeded in removing this stone with some difficulty. I then stitched the gall-bladder in the usual way to the edges of the abdominal wound. There was considerable discharge of bile and later of watery mucus. The patient left for home on the 28th day with the wound closed and perfect restoration to health.

Triple Amputation.—The second case to which your attention is called is that of a colored man, 32 years of age.

On March 8th I received this patient from the lower part of my county, having been sent to me by a physician in that section for the purpose of surgical treatment. Upon examination it was seen that he suffered from gangrene of both lower limbs, one forearm, nose and left ear. Not presenting a history of undue exposure to cold my second thought was that such a condition was of a diabetic nature. This prompted my examining the urine, which gave negative results, though I learned later the history obtained was false, and that he had been exposed in a freeze and snow a short time previous to consulting a physician. This case occurred to my mind to be almost hopeless, owing to the fact that he was much emaciated, had no appetite, could retain nothing in the form of nourishment, and in consequence of this he was absolutely helpless, scarcely being able to raise his head from the pillow; and was to me the most pitiable patient who had ever fallen into my hands during my course of practice.

In any light the case might be viewed prospects for recovery seemed so very limited that I determined with his consent to give him the quickest results, whether favorable or unfavorable, and chose as that method a triple amputation. The patient was given that morning hypodermically a 32 ND. of a grain of strychnine and repeated in about three hours, at which time he was operated upon. After going through the usual methods of preparing the parts for an

operation the patient was placed under the influence of an anæsthetic, ether being used. Not having at hand a sufficient number of tourniquets ordinary bandages were used to control hemorrhage. Dr. Thos. Burbank was assigned the left leg, Dr. Joshua Tayloe the left arm, and I took for my portion the remainder, which was the right leg; also the nose and ear required some trimming. Dr. A. K. Tayloe in charge of anæsthetic announced the patient ready, at which signal all began to operate, working as rapidly as possible, each limb falling from his body almost simultaneouly. The individual duties assigned the physicians were not complete until each had sewed together the flap and dressed the stump, which was also pushed as rapidly as possible, thereby greatly reducing the length of time which would ordinarily be required for this operation undertaken by a single operator. The patient did not suffer any noticeable shock during or after the operation. He had no disturbing symptoms during the course of recovery; wounds healed by first intention. He is now in good health and has gained flesh rapidly.

Case 3.—The next case I desire to report is that of a young man, age 20, with dislocation of the head of the femur backwards and upwards on the dorsum illi, or six weeks' standard.

This particular case is of interest from the fact that literature on the subject is very limited. In fact I could find but little mentioned of treatment for dislocations of long standing.

This man was totally unable to walk or even put the dislocated limb on the ground, hence I made up my mind to take chances should I fail to reduce it by the usual method, and cut down upon the joint, dividing all constricted points, and put the head of the bone in the acetabulum at all hazards. The patient was placed under chloroform, and with a sufficient number of good assistants every effort was made in the usual manner for one hour, but failed to accomplish the de-

sired results. I saw it was useless to continue, as it would only produce trauma and further injure the soft parts. I then made a straight incision over trochanter down to the capsule. The capsule was ruptured and the head of the bone thrown plainly into view. The muscular attachments around the trochanters were cut away, and all other muscular constrictions, with a large spoon curette. The acetabulum was cleaned out sufficient to admit the head of the bone, then with proper manipulation the head of the bone was thrown into the acetabulum. It required some great force to accomplish this. I then sutured the capsula together and left part of the superficial wound open for drainage; put the limb up in its normal position with slight extension by means of a weight.

At this writing he has no shortening, the wound is about healed, the limb is in fine position, and there is a fair range of motion, though the case has not been operated upon sufficient length of time to say just what the ultimate result will be.

Case 4.—The next case that I have to report is one of double femoral hernia, of seventeen years' standing; herniotomy under cocaine anæsthesia, with complete cure.

A young woman, age 20, consulted me for double femoral hernia, which had existed since childhood, and for the past few years had given her much trouble. Both hernia sacs were above the average in size, and gave her a good deal of trouble and pain when standing or walking, though was easily reduced when lying down.

The incision over the femoral tumor revealed a large globular mass the size of a hen's egg, which consisted of omentum enclosed in the peritoneal sac. The omentum was pushed back in the abdominal cavity, the sac pulled forward, ligated and cut off, and the femoral canal closed by use of catgut. The fascia was also brought together with same sutures. External wound closed with silk wormgut. The wound dressed

in the usual way. The patient was discharged in three weeks with perfect results.

I wish to mention in this connection the decided advantage of cocaine anæsthesia, as I find frequently under general anæthesia some difficulty in finding the sac; not so with local anæsthesia, as I direct my patient to cough, forcing the sac down where it is easily recognized and dealt with. I find the conditions in femoral hernia are very different from those of inguinal hernia, so far as radical cure is concerned. One can extirpate the sac of a femoral hernia, but to close the canal is very much more difficult than to close the inguinal. If you try to sew the femoral canal we have really very little opportunity to introduce a suture, because right alongside it is the femoral vein and other large vessels, and the partition between the septum crurale and the vein is very thin—hardly strong enough to support a suture, hence the difficulty in keeping the point of the needle from penetrating the large vessels.

The solution of cocaine used was from 1-400, and going through the skin from 1-800 in the deeper tissues.

Case 5.—The next case is ligation of the common carotid artery for stab wound of the neck; the knife entering just behind the angle of the jaw, severing the large vessels and penetrating the tonsil.

I was called to this man hurriedly, and found that he had received the stab as above-stated. Hemorrhage was so profuse and sudden that he sank to the ground and fell with his neck across a narrow step, thereby temporary suppressing hemorrhage, but when his head was raised by the physician, who was present shortly after the wound was received, blood gushed forth in such profusion that he became pulseless and collapsed. The doctor immediately thrust his two fingers into the wound, thereby controlling hemorrhage until he could get other help.

Upon my arrival his condition seemed almost hopeless. It was useless to attempt further packing with gauze as it was washed away so rapidly by the blood; so controlling the hemorrhage by pressure of the fingers of my assistant in the wound, he was immediately transfused with saline solutions. I then cut down in the usual method over the course of the carotid. Had no difficulty in ligating the large pulsating vessel. The assistant withdrew his finger. Hemorrhage had entirely stopped. The wound was closed in the ordinary way. Recovery was uneventful.

I mention this case as rather a rare instance. As a rule incised wounds of this nature about the region of the neck hemorrhage is so profuse as to destroy life before the patient can receive surgical aid. In this particular case a physician was in a hundred yards of this man when the wound was inflicted and rendered prompt aid, otherwise he would have bled to death before surgical assistance reached him.

THE ANTIPATHIC INFLUENCE OF THE NORMAL BODY SECRETIONS.

BY H. D STEWART, M.D., MONROE, N. C.

Mr. President and Brethren of the Medical Fraternity:

I am supposed to have a paper under the section of "Practice," but the study of physiology and physiological anatomy bear such a basic relation to the practice of medicine that I must necessarily go into the field of physiology.

I have read over the program and find one hundred and fifty-three papers. This means that to get a man interested in medical organization you must put him to work.

Every doctor that is so inclined must be allowed to think he is a leader and to take an easy part in all discussions. To know best what to do, best how to do it and best when to do it is wisdom. To know best what to do is wisdom of judgment and decision; to know best how to do is wisdom of action; to know best when to do is wisdom of time and opportunity; to know best what to write and how to write it is wisdom of thought and verbal expression. It is this last we all need so much at this time.

The subject I have undertaken to develop is one of such vast proportions as to cover, or at any rate to concern, the entire field of practical medicine.

The normal body secretions are concerned in the prevention and the cure of every disease known to the race, medical or surgical.

I might divide the secreting structures of the body into two sets of glands—those which are secretory proper and those which are both secretory and excretory. It is to the former we must look for the disposition of food or whatever else may be taken into the stomach; it is to the latter set we must look for the elimination of whatever is not absorbed into the lymphatics for the building up and prolongation of

the protoplasmic life. To the group of secreting glands belong, in order, anatomical and physiological, the salivary glands, the cardiac and pyloric glands of the stomach, the pancreas and liver and the glands which secrete the succus entericus. To the group of secretory and excretory glands belong the liver, the kidneys, the sweat-glands—and these all assisted by the lungs in their exchange of the deadly carbon gas for the invigorating, re-vitalizing oxygen.

This group of secretory, digestive glands have the stupendous tax of trying to dispose of all that theh uman habitue or bundle of habits takes into his patient, forbearing stomach, whether it be the poisonous drug with increased toleration or with accumulative action, or hypersecretion of saliva mixed with extracts from the tobacco weed; whether it be lamp-chimneys, nails, pocket knives and other articles of unnatural diet eaten by cows, goats and a few human monsters; or, if indeed, it be the deadly alcohol that is the chief etiological factor in so many cases of scirrhotic liver, kidney, lungs, brain and other diseased conditions; or if it be the sparkling cup of champaigne or cock-tail, around whose festive board so many social fellows love to linger, if any of these things be taken in excess or even some in moderation the stomach and its assistant sentinels rebel, they give up the job, and some acute disease results or a chronic pathological condition of their cell-life may be founded.

To the healthful action of these glands we owe our vigorous manhood. To the normal equalized work of these organs we must look for a clear brain and a steady nerve. For there must be a sound physical basis before the brain and the other parts of the triune man can accomplish the greatest, best work.

Did you ever try to think clearly and consecutively when your bowels had been constipated a week and you had a resultant auto-intoxication?

Have you ever tried to be pleasant and agreeable or to

control that old temper of yours when your liver was clogged to the limit and the bile and other products which this great scavenger-gland secretes and excretes had been diverted into the blood?

What is the cause of rheumatism, congestion of the lungs, of the kidneys, of the liver, of the stomach and of other organs? It is congestion of the liver. It is the failure of some excretory organ to act sufficiently—the checking diversion of some secretion.

When any one class of foods is taken in excess or taken too long there is going to be fermentation; there is going to be congestion of mucous surfaces. The normal secretions have been disturbed in their working and in their action. There must be a judicious mixture of proteids, starches and fats.

A sudden checking of perspiration, the sudden chilling of the surface of the body, congestion of the liver, backing and damming too much blood into other organs may cause inflammation of the lungs or of any other organ. These factors sending excessive blood supply to various organs will cause a simple congestion or they need only have infection, caused by some specific germ added, to produce an inflammation or a pathological condition, the cure of which may require the skill of the most able physician or of the most accurate dexterous surgeon.

It is the physician's business, if he has been called in time, to use the best, safest remedies, to limit the trouble to a simple congestion. Often he must be skilled in both prompt diagnosis and in treatment to do this. And even then some congestions will go on to infection and inflammation. Nothing relieves congestion of any organ so much as determining the excessive blood supply to other parts and giving the struggling organ complete rest. This may be accomplished by a brisk, chologogue purge followed with a hydrogogue purgative. Or in some cases it may be accomplished by a

blister or by bleeding with the knife or by drugs which bleed a man into his own vessels.

A great Confederate veteran of our Southland, John B. Gordon, attended a banquet in Macon. He was a social fellow. He ate to excess. Acute indigestion or congestion of the stomach and liver carried him to the mysterious beyond. He was old. He had an old man's stomach and heart, and his heart could not stand the strain.

The beautiful, beloved daughter of the Confederacy, Winnie Davis, attended a reunion of the Confederate Veterans in Atlanta. She had contracted malaria. Her liver was not doing its normal work. She was driven in a carriage through a damp, chilly atmosphere. There was a sudden checking of the secretions and malarial gastritis carried her to her heavenly home despite the efforts of the best physicians to save her life.

Surely man's stomach, instead of money, must be at the root of all evil.

You have seen the Epicurean fill up one more time and die. You have observed the alcoholic take unto himself one more longed-for drunk and pass to his reward. You have seen the brain congested. You have watched the cells of the gray matter that seem to secrete the thoughts and to dictate self-control and decent conduct first waltz, then whoop 'em up, then whirl in the social swim, then stagger and settle. You have seen cock-tail and champagne suppress the toastmaster's voice and defy the acoustic properties of O'Donohue Hall or of any other auditorium. Some of you have even felt these things and maybe you have repented at your leisure, while seeking the full water-pail.

I believe it was Hughlings Jackson who said a man is as old as his arteries. It is equally true that a man is as old as his stomach.

When a physician is first called to see a patient—a case of any consequence—he should take an hour or two to get

as good a history as he can, not only of the disease, but of the patient as well. Then he should make a thorough examination, subjective and objective, from head to foot of patient. He can then be better able to judge of what assistance he is to expect from nature and of how much hard work he himself will have to do.

If the physician be one of large experience and marked diagnostic skill he may be able to give a reliable diagnosis and prognosis. But, if the patient has had irregular habits, if his constitution has been undermined by cigarettes, alcohol, venereal diseases, over-eating and irregular eating, by morphine or other drugs; if he has worked his organs to death, if for a long while he has not secured sufficient refreshing sleep; if his daily wear and tear has been far in excess of nature's daily repair, then the physician has a fight to make for the life of his patient. However, some men had rather do much in a few years' time and then pass to give room for the other actors that are ready to fill their places, than to be mere drones to a ripe old age.

I will notice briefly the secretions as to their special functions.

The saliva by its ptyalin changes starch into sugar. By its mucin it lubricates the food and prepares it for the stomach by rendering it more soluble. Always chew your food. Even your milk and your water should be chewed. The mucin of the saliva moistens the throat of the public speaker and facilitates the tongue movements of the loquacious society gossiper who aspires to be the first official announcer of all sensational news. It protects the mucous membrane of the mouth against stomatitis, throat against laryngitis. What is more annoying than a deep ulcer of the mouth or a dry sore throat? Re-establishment of the secretions will relieve it.

The gastric juice is distinctly antiseptic. It saves from ptomaine poisoning and from other results of putrefaction, the ravenous New Englander whose palate is delighted with

decayed bird flesh, dead for a week before being deprived of its feathers or its entrails.

Gastric juice, with too much hydrochloric acid—acting for a long while, may cause ulcer and even carcinoma of the stomach. If the glands of the stomach become atrophied and fail to secrete sufficient gastric juice there is usually a train of evils that even the stomach specialist stumbles over. The bile is antiseptic and astringent.

Pancreatic juice disposes of proteoses, fats and starches.

The succus entericus changes cane sugar and maltose into glucose.

And now to the glands that both secrete and excrete.

Why do people usually have rheumatism during the spring months? Because they take in more of the cause than they eliminate during the winter months. They eat more meat, more proteids and fats in the winter, and do not perspire at this season. So more work is thrown upon the kidneys, liver and lungs. A man's liver is in worse condition in the spring than at any other season. The reasons are obvious. These excretory organs are the renovators of the human body. As long as they are doing their work perfectly and the individual's vitality is not lowered from any cause, the tubercle bacillus, the typhoid bacillus and other bacteria have little if any effect upon their respective points of attack, unless the said individual happens to receive an extraordinary large dose.

The kidneys must act daily or we die. The liver must act regularly or we become intoxicated, sluggish, nervous, nauseated with congested liver and stomach, rheumatism, sore muscles, headaches, neuralgias.

What's the matter with me, doctor? It's your liver. This is a very common diagnosis with the uncertain, inaccurate diagnostician.

Man was not made a diseased creature by the Great First Cause. It is habit and sin that have wrought so disastrously

to the human body. So the physician must fight disease and the devil. There is an everlasting battle on. These be our weapons: Plenty of water, inside and out; plenty of oxygen, the elixir of life; as much wholesome nourishment as can be readily assimilated; sufficient refreshing sleep and rest to counter-balance daily wear and tear of organic tissues; good elimination. Let all these be wisely secured by a trained nurse or her substitute. If these ends can be secured the physician knows his patient is going to recover.

I am very glad indeed to say that, though late in the program, I have not had to talk against cock-tail and champagne, for no man can out-talk King Alcohol nor beat him acting the fool. Last night some of my nearest friends did not know me. And, after I told them who I was, they didn't know which one of me it was.

VARICOCELE, HAEMATOCELE, HYDROCELE.

BY E. F. STRICKLAND, M D., BETHANIA, N. C.

Mr. President and Fellow-Members of the Medical Society of the State of North Carolina.:

On such occasions as these we are led by the skillful hand and ingenious mind of many of our ablest members into various fertile fields of medicine and surgery, where theory and practice become a unit for the relief of suffering humanity, and to the glory and honor of our noble profession.

I would not obtrude myself upon you in this connection, except in compliance with a request made by our President, a detestation for non-performance of duty and a surrender to the impulse that will not down—a willingness, yea, more, a desire to contribute my mite to this, the greatest medical convention ever held in our great State.

I have chosen for the subject of this short paper a rather long heading—a triple heading, if you please, viz., "Varicocele—Haematocele—Hydrocele," which I shall discuss in the order named.

Varicocele is a tortuous condition of the veins of the scrotum. The disease is estimated to be present in at least 10 per cent of all adult males, but it is of pathological significance in a much smaller proportion of cases than this. The condition often grows out of excessive venery—excessive venereal exercise or excitement, masturbation, etc.

The compression of the veins above, where they pass through the inguinal canal, and the lax support below, in the scrotum, render them liable to over-distention—a damming up of blood in the veins. It is more troublesome in summer than in winter. Varicocele is more frequently found on the left side than the right, for the following anatomical reasons: First. The left testicle hangs lower than the right; second,

the right spermatic vein is furnished with valves—the left is destitute of these valves; third, the left spermatic vein enters the renal vein on that side at a right-angle, whereas the right spermatic vein empties into the vena cava; fourth, the left spermatic vein in its direction over the pelvis, behind the sigmoid flexure of the colon, is often compressed by faecal matter in the bowel. Symptoms: Subjectively, a sense of weight, sometimes amounting to pain, is about all. Physically you usually find the testicle smaller and softer on the affected side, due to atrophy of the organ. On taking hold of the part you find a tumor in the scrotum of the affected side which feels like a bundle of earth-worms. If the case is one of long standing the scrotum becomes blue on the affected side. Omental hernia is the only condition with which the varicose tumor is likely to be confounded. To differentiate between the two, have the patient recline, and if the condition is one of varicocele the tumor will gradually disappear. Now make gentle pressure over the internal ring with the finger, sufficient to keep back a hernia but not to cut off the arterial blood-supply, and if on standing up the tumor gradually returns from *below* it is varicocele, otherwise it is hernia.

Treatment consists of two kinds: First, palliative; second, radical. Palliative consists in giving the scrotum support by the use of a well-fitting suspensory bandage, cold douches to scrotum, regulation of bowels and relief to the patient's mind by assuring him that he is not becoming sterile and that his affection is not a malignant one. This is an all-sufficient and satisfactory treatment in most cases. Radical treatment is of many varieties, and is indicated when the patient suffers much pain and disability, progressive atrophy of the testicle, or when the mental depression of the patient demands active measures for his relief. All of the methods of operation have but one object in view, namely, the destroying of the circulation in the veins and relieving the pressure.

I think an operation by open incision preferable to any

of the sub-cutaneous strangulation methods. Expose the veins by an incision in the scrotum over the varicocele and with carbolized catgut ligate the veins at the upper and lower angles of the wound. Then the mass of veins between the two ligatures is excised. A small tube or gauze, for drainage, is placed in the wound and the edges brought together. A satisfactory modification of this operation consists in bringing the stumps together after intervening mass has been excised, by tying the two ligatures, thus giving better support to the testicle and holding it higher in the scrotum.

Haematocele is a collection of blood in the scrotum. It is generally of traumatic origin, though not always, as it may come from the rupture of a varicose vein or as a complication of hydrocele. In complicated harmatocele the diagnosis sometimes has to be made by exploratory tapping or incision. In an uncomplicated case there is usually a traumatic history, a suddenly developed opaque tumor with discoloration of the scrotum.

Treatment.—Put patient on back, raise the scrotum, apply ice, lead-water and laudanum. Hot fomentations may be used in astheoric cases. In a few days this will generally suffice and the patient can get up and by support of the scrotum he can get about. If necessary strapping may be practiced in connection with a well-fitting support; and, finally, if absorption will not occur and the case becomes chronic, incise the scrotum, turn out the contents, cleanse, and if necessary curette the sack, sew tunica vaginalis and skin together and dress antiseptically. As a rule it is dangerous to incise a recent haematocele, on account of hemorrhage. Finally, in old haematoceles of feeble subjects, when other methods have proved futile, and particularly if there is good reason for believing that the testis is atrophied and useless, castration is indicated.

Hydrocele is an abnormal amount of fluid around the testicle or cord in the tunica vaginalis. It is usually uni-

lateral. Of this affection there are several varieties. The two general divisions are, first, congenital; second, acquired.

By congenital hydrocele is meant an accumulation of fluid in the femicular pouch which has remained patulous from the abdominal cavity to the testis, and is, therefore, reducible; whereas the acquired, as is generally seen in the adult, is irreducible. The acquired form comes on gradually by the fluid accumulated in the scrotum getting ahead of the eliminative process.

In the congenital form as seen in children it is best to let it alone, as it will usually be absorbed and relief come on without interference. In the exceptional cases apply a weak-spring truss to force, or rather to hold the fluid back. Also, paint the parts affected with iodine. May draw the water off with a hypodermic syringe.

For the acquired variety we divide the measures of treatment into two kinds: First, palliative; second, radical. Under the palliative measure thrust a trocar into the tunica vaginalis, leave the camela in position for a few minutes and the whole of the fluid will be removed. This treatment is wholly palliative, as the fluid will soon begin to return, and in from three months to one year there is a demand for a repetition of the tapping, or, what is far better, a resort to the radical cure which may be, first, by injection; second, by operation. An irritating fluid injected into the tunica vaginalis renders the sack powerless to secrete a fluid with which to fill itself. Either tr. of iodine or carbolic acid is usually chosen for this purpose. I prefer the latter, and use it as follows: I tap the hydrocele with a small trocar, the canula of which is attachable to a syringe. After the fluid has all escaped, without removing the canula, I attach the syringe which has been loaded with pure carbolic acid, from 15 to 30 drops, depending upon the size and chronicity of the case, and inject quickly and directly into the cavity. The instrument is as quickly removed, and the affected scrotal side is taken between thumb

and finger and gently gone over, spreading out the injected fluid over the surface of the entire serous sack. The anæsthetic effect of the acid renders the operation almost painless when compared with iodine in the same connection; also, the inflammatory reaction is satisfactory, but less severe than when iodine is used.

The patient should be kept in bed for a few days when he is allowed to get up and go about; and, if the operation has been properly and faithfully done, nine times out of every ten there is perfect adhesion between the layers of the tunica vaginalis, and a permanent cure as a result.

When the injection method has failed, where there is double hydrocele and where there is hernial complication, an operation is demanded and Volkman's is the best and is as follows: Lay the tunica vaginalis wide open by free incision 2 or 3 inches long, and allow the water to *pour* out. Now stitch the edge of the tunica vaginalis to the edge of the skin on each side of the incision. Pack the cavity with iodoform gauze, dress antiseptically, support the scrotum and allow the wound to heal up by granulation.

Bergman's operation is unnecessary and unjustifiable except in old cases where the tunic is very much thickened or extensively diseased. It consists in cutting away, with a pair of scissors, a piece from each side of the sack in the shape of a half-moon. The edges of the sack are stitched to the skin as in the previous operation, and the dressing is the same.

TREPANING THE SKULL FOR RECENT TRAUMATISMS WITH MODERN INSTRUMENTS OF TO-DAY.

BY H. M. WILDER, M.D., CHARLOTTE, N. C.

Trepaning the skull and other bones of the human body has been an operation resorted to for traumatisms and disease since the time of Hypocrates, Galen, Celsus and others of subsequent periods up to the present time. In a more or less modified form it is true in comparison to the operation as practiced by the more modern surgeons like Galt, Hey, Velpeau, Mott and the still more advanced surgeons of the present time throughout this entire country.

This operation has always been classed among the capital operations in surgery. Not on account of any difficulty in its technique, but on account of two potential dangers. The first from shock alone arising from the operative procedure, and the second from the liability of affecting the membranes covering the brain, viz., the dura mater and arachnoid membranes and thereby producing arachnitis and even infecting the brain substance itself, causing a cerebritis and acute softening of that most important organ, necessary to life itself. By the use of the very large and cumbersome Galt Trephines the foregoing evils were almost impossible to avoid, on account of the removal of unnecessary bony protection covering the brain, for it stands to reason that the greater amount of bone removed the greater will be the shock communicated to the brain which is so necessary to life, and the greater liability of improving and infecting the extensive surface coverings of the brain with pathogenic micro-organisms that cause inflammation and the resulting evils following such exposure.

The present way of trepaning the cranium for traumatisms that crash in portions of the skull upon the brain and irritate and compress and interfere with the proper functions of that

organ is to cut away all hair in the immediate neighborhood of the injury by means of a sharp pair of scissors, and shave the surface of the scalp for at least two and one-half to three inches from the center of the wound, and then soap the surface well with etherial or green soap and clean away all debris, dandruff and dirt, and then apply over the field of operation antiseptic gauze saturated with a 2000 solution of corrosine sublimate. This can be accomplished while the necessary sterilization of the instruments is going on. Then remove the bichloride gauze and wash the surface with sterilized water with liquid carbolic acid put in same, first mixing the carbolic acid in glycerine, making the strength of the wash to represent 1 part to 100 part of glycerine and water. After this dry the surface of the scalp well with a sterilized cloth or towel, and then make the incision in the scalp in such manner as will effect the best drainage and secure the proper exposure of the impaired bone beneath the scalp. When the nature of the injured bone and other injuries to the coverings of the brain have been ascertained, as far as possible trephine the skull on the sound and firm side of the injured bone with the trephine of De Vilviss, which is only about three-eighths of an inch in diameter, which can be used after the manner of the Galt trephine of former days, and after the little opening has been made brush away all detritus with a brush and insert De Vilviss' one-tooth saw or chisel, which pushes the membranes of the brain out of the way, and with the biting motion of the forceps-like arrangement the skull can be cut away in any direction desired without removing any more of the bone than is necessary to the introduction of a lever for the raising of depressed bone or the introduction of forceps for the removal of detached and floating splinters of bone that are found beneath the injury.

By the use of these ingenious contrivances I am satisfied that the operation of trepaning the skull will in the future be accompanied with a great reduction in the mortality ac-

companying this capital operation. Erichsen, some 30 or 40 years since, put down the mortality from trepaning at 33 per cent. It is true that this statistical observation was made prior to the advent of "Listerism" and the bright prospects following this great asepsis and antiseptic period.

It is not the purpose of this paper to more than call attention to the fact that the De Vilviss trephine and other instruments are a decided advance in the removal of recently depressed bone from traumatism, over the Galt trephine, and it is not intended to convey the idea that the Galt trephine is to forever be relegated to obscurity, for it will never be the case, for there are certain operations upon the skull in which it will continue to be more serviceable even than the De Vilviss trephine in this field of diseased conditions of the cranial bones, etc.

Memoranda.

At the forty-ninth annual session of the Medical Society of the State of North Carolina in Wilmington, N. C., in 1902, the address of the President, Dr. Robert S. Young, contained the following:

"At the St. Paul (1901) meeting of the American Medical Association, a new Constitution and By-Laws were adopted. The American Medical Association earnestly requests the co-operation of our Society in its organization. The officers of that Association asked me to bring the matter before you. I herewith transmit the correspondence, and beg you to authorize a special committee to consider this subject and report during this meeting."

Page 33, Transactions of the same session, contains the following:

"The Committee on the President's Message reported in favor of the suggestions made; * * * they recommend that a committee be appointed to draft a constitution along the lines laid down by the American Medical Association, and to report to the next meeting of the Society.

"The President appointed the following committee on a new constitution: Drs. J. Howell Way, M. H. Fletcher, H. A. Royster, J. A. Burroughs, Geo. W. Pressly."

In accordance with the instructions therein contained, the committee carefully considered the matter, and after a most critical study of the whole subject, submitted the Constitution and By-Laws as contained in the following pages for the action of the Society.

At the fifty-first annual session in Hot Springs, N. C., beginning June 3, 1903, Dr. A. W. Knox, President, the report of the committee was accepted and made the subject of a full and free discussion extending over a portion of two days, when the Society *unanimously* adopted the Constitution and By-Laws as reported by the committee, and contained in the following pages.

CONSTITUTION AND BY-LAWS

OF THE

MEDICAL SOCIETY OF THE STATE OF NORTH CAROLINA.

[Adopted at the Fiftieth Annual Session, Hot Springs, N C., June 3, 1903.]

ARTICLE I.—Title of the Society.

The name and title of this organization shall be "The Medical Society of the State of North Carolina."

ARTICLE II.—Purposes of the Society.

The purposes of this Society shall be to federate and bring into one compact organization the entire medical profession of the State of North Carolina, and to unite with similar organizations in other States to form the American Medical Association; with a view to the extension of medical knowledge, and to the advancement of medical science; to the elevation of the standard of medical education, and to the enactment and enforcement of just medical laws; to the promotion of friendly intercourse among physicians, and to the guarding and fostering of their material interests; and to the enlightenment and direction of public opinion in regard to the great problems of state medicine; so that the profession shall become more capable and honorable within itself, and more useful to the public in the prevention and cure of disease, and in prolonging and adding comfort to life.

ARTICLE III.—Component Societies.

Component societies shall consist of those district and county medical societies which shall hold charters from this State Society.

ARTICLE IV.—Composition of the Society.

Section 1. This Society shall consist of Members, Delegates, Guests, Honorary Members, and Honorary Fellows.

Sec. 2. Members.—The Members of this Society shall be the members of the component county medical societies.

Sec. 3. Delegates.—Delegates shall be those members who are elected in accordance with this Constitution and By-Laws to represent their respective component county societies in the House of Delegates of this Society.

Sec. 4. Guests.—Any distinguished physician not a resident of this State may become a guest during any annual session upon invitation of the Society, or its Council, and shall be accorded the privilege of participating in all of the scientific work of that session.

Sec. 5. The Honorary Members shall consist of such regular physicians as have won distinction by their contributions to medical science;

those elderly physicians who, prior to their retirement from practice, have displayed a proper interest in the welfare of this Society, or who, by their example, have reflected credit and honor upon the profession. They must be nominated by the Council and receive a two-thirds vote of the members of the House of Delegates present at the meeting at which their names are presented for election. They shall be exempt from all dues and fines, and shall be entitled to all the privileges of the Society, except the right to vote and hold office.

SEC. 6. THE HONORARY FELLOWS shall consist of such physicians as have been members of this Society continuously for thirty years, and whose dues have been paid during that time. They shall receive a two-thirds vote of the members of the House of Delegates present at the meeting at which their names are proposed for promotion. They shall be exempt from all dues and fines, and shall be entitled to all the privileges enjoyed by active members in good standing.

ARTICLE V.—HOUSE OF DELEGATES.

The House of Delegates shall be the legislative and business body of the Society, and shall consist of (1) delegate elected by the component county societies, and (2) *ex officio* the officers of the Society as defined in this Constitution.

ARTICLE VI.—SECTION AND DISTRICT SOCIETIES.

The House of Delegates may provide for a division of the scientific work of the Society into appropriate sections, and for the organization of such councilor district societies as will promote the best interests of the profession, such societies to be composed exclusively of members of component county societies.

ARTICLE VII.—SESSIONS AND MEETINGS.

SECTION 1. The Society shall hold an annual session, during which there shall be held daily not less than two general meetings, which shall be open to all registered members, delegates and guests.

SEC. 2. The time and place for holding each annual session shall be fixed by the House of Delegates.

ARTICLE VIII.—OFFICERS.

SECTION 1. The officers of this Society shall be a President, three Vice-Presidents, a Secretary, a Treasurer, and ten Councillors.

SEC. 2. The President and Vice-President shall be elected for a term of one year. The Secretary, Treasurer and Councillors shall be elected for terms of three years each. All of these officers shall serve until their successors are elected and installed.

SEC. 3. The officers of this Society shall be elected by ballot, a majority of the votes cast being necessary to elect, by the House of Delegates on the morning of the second day of the annual session, but no Delegate shall be eligible to any office named in the preceding section, except that of Councillor, and no person shall be elected to any such office who is not in attendance upon the annual session and who has not been a

member of the Society for the past three years. Any nominee for the office of President shall have been an active member of the Society for five years, including the year of his election, shall have attended two of three meetings immediately preceding his nomination, including the meeting at which he is nominated; and shall be a member in good standing at the time of his nomination.

ARTICLE IX.—The Board of Medical Examiners.

Section 1. The seven members of the "Board of Medical Examiners of the State of North Carolina" shall be elected by ballot for a term of six years, a majority of the votes cast being necessary to a choice. The election shall be held on the second day of the annual meeting, and the balloting shall continue until the entire number is elected.

Sec. 2. A vacancy occurring from any cause other than expiration of term of office, shall be filled by the Board or a quorum thereof.

Sec. 3. The elective members of the State Board of Health, and of the State Board of Medical Examiners for Nurses, shall be elected by ballot on the second day of the session.

ARTICLE X.—Funds and Expenses.

Funds for meeting the expenses of the Society shall be arranged for by the House of Delegates by an equal per capita assessment upon each county society, to be fixed by the House of Delegates, by voluntary contribution, and from the profits of its publications. Funds may be appropriated by the House of Delegates to defray the expenses of the annual sessions, for publication, and for such other purposes as will promote the welfare of the Society and profession.

ARTICLE XI.—Referendum.

The general meeting of the Society may, by a two-thirds vote, order a general referendum upon any question pending before the House of Delegates, and the House of Delegates may, by a similar vote of its own members, or after a like vote of the general meeting, submit any such question to the membership of the Society for a final vote; and if the persons voting shall comprise a majority of all the members of the Society, a majority of such vote shall determine the question, and be binding upon the House of Delegates.

ARTICLE XII.—The Seal.

The Society shall have a common seal, with power to break, change or renew the same at pleasure.

ARTICLE XIII.—Amendments.

The House of Delegates may amend any article of this Constitution by a two-thirds vote of the delegates registered at that annual session, provided that such amendment shall have been presented in open meeting at the previous annual session, and that it shall have been sent officially to each component county society at least two months before the session at which final action is to be taken.

By-Laws.

CHAPTER I.—Membership.

Section 1. All members of the component county societies shall be privileged to attend all meetings and take part in all of the proceedings of the annual sessions, and shall be eligible to any office within the gift of the Society.

Sec. 2. The name of a physician upon the properly certified roster of members or list of delegates, of a chartered county society which has paid its annual assessment, shall be *prima facie* evidence of his right to register at the annual session in the respective bodies of this Society: *Provided*, that licentiates of the State Board of Medical Examiners may, if the House of Delegates so elects, at the meeting of the Society at which they receive their license, be entitled to register upon payment of the annual dues for that year, and be accorded all the privileges of other members for that year, the Secretary of the Society entering their names and so certifying to the secretary of the county society where the said licentiates reside, but said licentiates desiring to continue membership in this Society must affiliate with their local county society.

Sec. 3. No person who is under sentence of suspension or expulsion from any component society of this Society, or whose name has been dropped from its roll of members, shall be entitled to any of the rights or benefits of this Society, nor shall he be permitted to take any part in any of its proceedings until such time as he has been relieved of such disability.

Sec. 4. Each member in attendance at the annual session shall enter his name on the registration book, indicating the component society of which he is a member. When his right to membership has been verified by reference to the roster of his society, he shall receive a badge, which shall be evidence of his right to all the privileges of membership at that session. No member or delegates shall take part in any of the proceedings of an annual session until he has complied with the provisions of this session.

CHAPTER II.—Annual and Special Sessions of the Society.

Section 1. The Society shall hold an annual session at such time and place as has been fixed at the preceding annual session.

Sec. 2. Special sessions of either the Society or House of Delegates shall be called by the President at his discretion, or upon petition of twenty delegates.

CHAPTER III.—General Meetings.

Section 1. The general meetings shall include all registered members, delegates, and guests, who shall have equal rights to participate in the proceedings and discussions; and, except guests and honorary members, to vote on pending questions. Each general meeting shall be presided over by the President, or in his absence or disability, or by his request,

by one of the Vice-Presidents. Before it, at such time and place as may have been arranged, shall be delivered the annual address of the President, and the annual orations, and the entire time of the session, so far as may be, shall be devoted to papers and discussions relating to scientific medicine.

SEC. 2. The general meeting shall have authority to create committees or commissions for scientific investigations of special interest and importance to the profession and public, and to receive and dispose of reports of the same; but any expense in connection therewith must first be approved by the House of Delegates.

SEC. 3. Except by special vote, the order of exercises, papers and discussions, as set forth in the official program shall be followed from day to day until it has been completed.

SEC. 4. No address or paper before the Society, except those of the President, Orator and Essayist, shall occupy more than twenty minutes in its delivery; and no member shall speak longer than five minutes, nor more than once on any subject.

SEC. 5. All papers read before the Society shall be its property. Each paper shall be deposited with the Secretary when read, and if this is not done it shall not be published.

CHAPTER IV.—HOUSE OF DELEGATES.

SECTION 1. The House of Delegates shall meet annually at the time and place of the annual session of the Society, and shall so fix hours of meeting as not to conflict with the first general meeting of the Society, or with the meeting held for the address of the President and the annual orations, and so as to give delegates an opportunity to attend the other scientific proceedings and discussions so far as is consistent with their duties. But if the business interests of the Society and profession require, it may meet in advance, or remain in session after the final adjournment of the general meeting.

SEC. 2. Each component county society shall be entitled to send to the House of Delegates each year one delegate for every twenty-five members, and one for each major fraction thereof, but each county society holding a charter from this society which has made its annual report and paid its assessment as provided in this Constitution and By-Laws, shall be entitled to one delegate.

SEC. 3. A majority of the registered delegates shall constitute a quorum, and all of the meetings of the House of Delegates shall be open to members of the Society.

SEC. 4. It shall, through its officers, Council, and otherwise, give diligent attention to and foster the scientific work and spirit of the Society, and shall constantly study and strive to make each annual session a stepping-stone to future ones of higher interest.

SEC. 5. It shall consider and advise as to the material interests of the profession, and of the public in those important matters wherein it

is dependent upon the profession, and shall use its influence to secure and enforce all proper medical and public health legislation, and to diffuse popular information in relation thereto.

SEC. 6. It shall make careful inquiry into the condition of the profession of each county in the State, and shall have authority to adopt such methods as may be deemed most efficient for building up and increasing the interest in such county societies as already exist, and for organizing the profession in counties where societies do not exist. It shall especially and systematically endeavor to promote friendly intercourse between physicians of the same locality, and shall continue these efforts until every physician in every county of the State who can be made reputable has been brought under medical society influence.

SEC. 7. It shall encourage post-graduate work in medical centers, as well as home study and research, and shall endeavor to have the results of the same utilized and intelligently discussed in the county societies. (With these ends in view, five years after the adoption of these By-Laws, except by unanimous consent of the Committee on Scientific Work, no voluntary paper shall be placed upon the annual program, or be heard in the Association, which has not first been read in the county society of which the author is a member.)

SEC. 8. It shall elect representatives to the House of Delegates of the American Medical Association in accordance with the Constitution and By-Laws of that body, in such manner that not more than one-half of the delegates shall be elected in any one year.

SEC. 9. It shall, upon application, provide and issue charters to county societies organized to conform to the spirit of this Constitution and By-Laws.

SEC. 10. In sparsely settled sections, it shall have authority to organize the physicians of two or more counties into societies, to be designated by hyphenating the names of two or more counties, so as to distinguish them from district and other classes of societies, and these societies, when organized and chartered, shall be entitled to all the privileges and representation provided herein for county societies, until such counties may be organized separately.

SEC. 11. It may divide the counties of the State into ten councillor districts, and, when the best interest of the society and profession will be promoted thereby, organize in each a district medical society, to meet midway between the annual sessions of this Society, and members of the chartered county societies, and none others, shall be members in such district societies. (When so organized from the presidents of such district societies shall be chosen the Vice-Presidents of this Society, and the presidents of the county societies of the district shall be the vice-presidents of such district societies.)

SEC. 12. It shall have authority to appoint committees for special purposes from among members of the Society who are not members of the House of Delegates, and such committees may report to the House of Delegates in person, and may participate in the debate thereon.

SEC. 13. It shall approve all memorials and resolutions issued in the name of the Society before the same shall become effective.

SEC. 14. It shall present a summary of its proceedings to the last general meeting of each annual session, and shall publish the same in the Transactions.

CHAPTER V.—ELECTION OF OFFICERS.

SECTION 1. All elections shall be by secret ballot, and a majority of the votes cast shall be necessary to elect: *Provided*, that when only one name is to be balloted for, the House may suspend the rules and declare the same elected by consent.

SEC. 2. The House of Delegates, on the first day of the annual sessions, shall select a Committee on Nominations, consisting of ten delegates, no two of whom shall be from the same councilor district. It shall be the duty of this committee to consult with the members of the Society, and to hold one or more meetings, at which the best interests of the Society and of the profession of the State for the ensuing year shall be carefully considered. The committee shall report the result of its deliberations to the House of Delegates in the shape of a ticket containing the names of one member for the office of President, and one member for each of the other offices to be filled at that annual session.

SEC. 3. The report of the Nominating Committee and the election of officers shall be the first order of business of the House of Delegates after the reading of the minutes on the morning of the second day of the general session.

SEC. 4. Nothing in this article shall be construed to prevent additonal nominations being made by members of the House of Delegates.

SEC. 5. Any person known to have solicited votes for or sought any office within the gift of this Society, shall be ineligible for any office for two years.

CHAPTER VI.—DUTIES OF OFFICERS.

SECTION 1. The President shall preside at all meetings of the Society and of the House of Delegates; shall appoint all committees not otherwise provided for; shall deliver an annual address at such time as may be arranged; shall give a deciding vote in case of a tie, and shall perform such other duties as custom and parliamentary usage may require. He shall be the real head of the profession of the State during his term of office, and, as far as practicable, shall visit by appointment the various sections of the State and assist the councillors in building up the county societies, and in making their work more practical and useful.

SEC. 2. The Vice-Presidents shall assist the President in the discharge of his duties. In the event of his death, resignation or removal, the Council shall select one of the Vice-Presidents to succeed him.

SEC. 3. The Treasurer shall give bond for the trust reposed in him whenever the House of Delegates shall deem it requisite. He shall demand and receive all funds due the Society, together with the bequests

and donations. He shall, under the direction of the House of Delegates, sell or lease any estate belonging to the Society, and execute the necessary papers; and shall, in general, subject to such direction, have the care and management of the fiscal affairs of the Society. He shall pay money out of the treasury only on a written order of the President, countersigned by the Secretary; he shall subject his accounts to such examination as the House of Delegates may order, and he shall annually render an account of his doings and of the state of the funds in his hands. He shall charge upon his books the assessments against each component county society at the end of the fiscal year; he shall collect and make proper credits for the same, and perform such other duties as may be assigned to him.

Sec. 4. The Secretary, acting with the Committee on Scientific Work, shall prepare and issue the programs for and attend all meetings of the Society, and of the House of Delegates, and he shall keep minutes of their respective proceedings in separate record books. He shall be custodian of all record books and papers belonging to the Society, except such as properly belong to the Treasurer, and shall keep account of and promptly turn over to the Treasurer all funds of the Society which come into his hands. He shall provide for the registration of the members and delegates at the annual sessions. He shall keep a card-index register of all the legal practitioners of the State by counties, noting on each his status in relation to his county society. In so far as it is in his power, he shall use the printed matter, correspondence and influence of his office to aid the councillors in the organization and improvement of the county societies, and in the extension of the power and usefulness of this Society. He shall conduct the official correspondence, notifying members of meetings, officers of their election, and committees of their appointment and duties. He shall act as chairman of the Committees on Scientific Work and on Publication. He shall employ such assistants as may be ordered by the Council or the House of Delegates. He shall annually make a report of his doings to the House of Delegates.

In order that the Secretary may be enabled to give that amount of time to his duties which will permit of his becoming proficient, it is desirable that he should receive some compensation. The amount of his salary shall be fixed by the House of Delegates.

CHAPTER VII.—Councillor Districts.

Section 1. To facilitate the more perfect organization of the medical profession, the State of North Carolina is hereby divided by counties into ten councillor districts, as follows:

First District.—Currituck, Camden, Pasquotank, Perquimans, Gates, Chowan, Washington, Tyrrell, Dare, and Hyde.

Second District.—Hertford, Martin, Pitt, Bertie, Beaufort, Lenoir, Jones, Craven, Pamlico, and Carteret.

Third District.—New Hanover, Pender, Onslow, Duplin, Bladen, Sampson, Columbus, and Brunswick.

Fourth District.—Northampton, Halifax, Nash, Edgecombe, Johnston, Wilson, Wayne, and Greene.

Fifth District.—Cumberland, Robeson, Scotland, Richmond, Montgomery, Moore, Harnett, and Chatham.

Sixth District.—Wake, Franklin, Warren, Vance, Granville, Person, Caswell, Alamance, Orange, and Durham.

Seventh District.—Anson, Union, Stanly, Mecklenburg, Cabarrus, Lincoln, Gaston, Cleveland, and Rutherford.

Eighth District.—Rockingham, Guilford, Randolph, Forsyth, Stokes, Surry, Yadkin, Alleghany, Wilkes, and Ashe.

Ninth District.—Davidson, Davie, Rowan, Iredell-Alexander, Catawba, Caldwell, Watauga-Mitchell, and Burke.

Tenth District.—Buncombe, Yancey, McDowell, Madison, Polk-Henderson, Haywood, Transylvania, Jackson, Swain, Macon-Clay, Graham, and Cherokee.

CHAPTER VIII.—Council.

Section 1. The Council shall hold daily meetings during the annual session of the Society, and at such other times as necessity may require, subject to the call of the Chairman or on petition of three Councillors. It shall meet on the last day of the annual session of the Society for re-organization and for the outlining of work for the ensuing year. At this meeting it shall elect a Chairman and Secretary, and it shall keep a permanent record of its proceedings. It shall, through its Chairman, make an annual report to the House of Delegates at such time as may be provided.

Sec. 2. Each Councillor shall be organizer, peace-maker and censor for his district. He shall visit each county in his district at least once a year for the purpose of organizing component societies where none exist, for inquiring into the condition of the profession, and for improving and increasing the zeal of the county societies and their members. He shall make an annual report of his doings, and of the condition of the profession of each county in his district to each annual session of the House of Delegates. The necessary traveling expenses incurred by such Councillor in the line of the duties herein imposed may be allowed by the House of Delegates upon a proper itemized statement, but this shall not be construed to include his expense in attending the annual session of the Society.

Sec. 3. Collectively the Council shall be the Board of Censors of the Society. It shall consider all questions involving the rights and standing of members, whether in relation to other members, to the component societies, or to this Society. All questions of an ethical nature brought before the House of Delegates or the general meeting shall be referred to the Council without discussion. It shall hear and decide all questions of discipline affecting the conduct of members or of a county society, upon which an appeal is taken from the decision of an individual councillor. Its decision in all such cases shall be final.

SEC. 4. The Council shall have the right to communicate the views of the profession and of the Society in regard to health, sanitation and other important matters to the public and the lay press. Such communications shall be officially signed by the Chairman and Secretary of the Council, as such.

CHAPTER IX.—COMMITTEES.

SECTION 1. The standing committees shall be as follows:

A Committee on Scientific Work.
A Committee on Public Policy and Legislation.
A Committee on Publication.
A Committee on Nominations.
A Committee on Finance.
A Committee on Obituaries.
A Committee on Arrangement.

And such other committees as may be necessary. Such committees shall be elected by the House of Delegates, unless otherwise provided.

SEC. 2. The Committee on Scientific Work shall consist of three members, of which the Secretary shall be a member and chairman, and shall determine the character and scope of the scientific proceedings of the Society for each session, subject to the instructions of the House of Delegates or of the Society, or to the provisions of the Constitution and By-Laws. Thirty days previous to each annual session it shall prepare and issue a program announcing the order in which papers, discussions and other business shall be presented, which shall be adhered to by the Society as nearly as practicable.

SEC. 3. The Committee on Public Policy and Legislation shall consist of three members and the President and Secretary. Under the direction of the House of Delegates it shall represent the Society in securing and enforcing legislation in the interest of the public health and of the scientific medicine. It shall keep in touch with professional and public opinion, shall endeavor to shape legislation so as to secure the best results for the whole people, and shall utilize every organized influence of the profession to promote the general influence in local, State and national affairs and elections. Its work shall be done with the dignity becoming a great profession, and with that wisdom which will make effective its power and influence. It shall have authority to be heard before the entire Society upon questions of great concern at such time as may be arranged during the annual session.

SEC. 4. The Committee on Publication shall consist of three members, of which the Secretary shall be one and the chairman, and shall have referred to it all reports on scientific subjects, and all scientific papers and discussions heard before the Society. It shall be empowered to curtail or abstract papers and discussions, and any paper referred to it which may not be suitable for publication in the Transactions may be returned to the author. The Committee shall have authority to arrange

for the publication and distribution of the Transactions after receiving competitive bids, and shall use diligence in getting them into the hands of the members. All papers read before the Society shall be the property of the Society.

SEC. 5. The Committee on Nominations shall be appointed and perform its duties in accordance with the provisions of chapter 5, section 2, of these By-Laws. They shall also nominate an Orator, an Essayist, a Leader of Debate, a Committee on Scientific Work, a Committee on Public Policy and Legislation, a Committee on Publication, a Committee on Obituaries, a Committee on Finance, one member of the Committee of Arrangements, Delegates to the American Medical Association, the Virginia Medical Society, the South Carolina Medical Association, and to such other bodies as the Society may determine. They shall also each third year nominate a Board of ten Councillors.

SEC. 6. The Committee on Finance, to consist of three members, shall examine the accounts of the Treasurer and report to the Society, making suggestions as to the amount of assessments for the coming year, the remuneration of the Secretary and the Treasurer, and such other suggestions concerning the finances of the Society as they may think proper. The Committee on Obituaries, to consist of three members, shall report to the general meeting of the Society the names of all members dying during the past year, with other data appropriate for memorial publication.

SEC. 7. The Committee of Arrangements shall consist of one member elected by the House of Delegates each year, and two members elected by the county society in the territory in which the annual session is to be held. It shall, by committees of its own selection, provide suitable accommodations for the meeting places of the Society and of the House of Delegates, the Board of Medical Examiners, and of their respective committees, and shall have general charge of all the arrangements. Its chairman shall report an outline of the arrangements to the Secretary for publication in the program, and shall make additional announcements during the session as occasion may require.

CHAPTER X.—OF THE SECTIONS AND VOLUNTARY COMMUNICATIONS.

SECTION 1. The newly installed President shall, at the last session of each meeting, appoint a member to serve as chairman of each of the following sections, to-wit: Anatomy and Surgery, Materia Medica and Therapeutics, Practice of Medicine, Physiology and Chemistry, Obstetrics, Gynæcology, Medical Jurisprudence and State Medicine, Pathology and Microscopy, and Railway Surgery.

SEC. 2. At any time after the meeting the chairman of each section may appoint three such members as he may select as his assistants, to work up such items as he may designate, confining himself to the general advancement in his section.

SEC. 3. The chairmen of sections shall send in to the Secretary, not later than thirty days previous to each meeting of the Society, the titles of papers to be presented by themselves and their assistants, to be used by the Committee on Scientific Work in making a program for the meeting.

SEC. 4. No paper shall be read before the Society unless the author be present, unless his absence be due to some unavoidable circumstance. A paper presented by proxy may be referred to the Committee on Publication.

SEC. 5. No paper shall be referred to the Committee on Publication until it has been placed in the hands of the Secretary; and the Secretary shall not return any paper accepted by the Society without the consent of the Society, and then he shall take a receipt for the same.

SEC. 6. No paper shall be received by or read before this Society that has been presented to any other Society, excepting only a component society of this Society, or that has been offered for publication in any journal; and in any case of any paper accepted, the author is supposed to have invested with the Society all rights to its ownership.

SEC. 7. No paper shall be published in the transactions of this Society unless approved by the Committee on Publication; and any paper rejected by said committee shall be returned to the author through the Secretary of the Society.

SEC. 8. It is to be understood that the Society is not to be considered as endorsing all the views and opinions advanced by the authors of papers published in the Transactions of the Society.

CHAPTER XI.—ASSESSMENTS AND EXPENDITURES.

SECTION 1. An assessment of two dollars per capita on the membership of the component societies is hereby made the annual dues of this Society, which amount shall be collected by the Secretary of each county society from each of its members on or before the first day of March and forwarded to the Treasurer of the State Society before the first day of April in each year. The Secretary of each county society shall forward a statement of its assessment, together with its roster of all officers and members, list of delegates and list of non-affiliated physicians of the county, to the Secretary of this Society before the first day of April in each year.

SEC. 2. Any county society which fails to pay its assessment, or make the reports required, on or before the date above stated, shall be held as suspended, and none of its members or delegates shall be permitted to participate in any of the business or proceedings of the State Society or of the House of Delegates, or receive the volume of Transactions, until such requirements have been met.

SEC. 3. All motions or resolutions appropriating money shall specify a definite amount, or so much thereof as may be necessary for the purpose indicated, and must be approved by the Council and House of Delegates on a call of the ayes and noes.

CHAPTER XII.—Rules of Conduct.

The principles set forth in the Declaration of Principles of Medical Ethics of the American Medical Association shall govern the conduct of members in their relations to each other and to the public.

CHAPTER XIII.—Rules of Order.

The deliberations of this Society shall be governed by parliamentary usage as contained in Roberts' Rules of Order, unless otherwise determined by a vote of its respective bodies.

CHAPTER XIV.—County Societies.

Section 1. All county societies now in affiliation with the State Society, or those that may hereafter be organized in this State, which have adopted principles of organization not in conflict with this Constitution and By-Laws, shall, upon application to the House of Delegates, receive a charter from and become a component part of this Society.

Sec. 2. As rapidly as can be done after the adoption of this Constitution and By-Laws, a medical society shall be organized in every county in the State in which no component society exists, and charters shall be issued thereto.

Sec. 3. Charters shall be issued only upon approval of the House of Delegates, and shall be signed by the President and Secretary of this Society. The House of Delegates shall have authority to revoke the charter of any component county society whose actions are in conflict with the letter or spirit of this Constitution and By-Laws.

Sec. 4. Only one component medical society shall be chartered in any county. Where more than one county society exists, friendly overtures and concessions shall be made, with the aid of the councillor for the district, if necessary, and all of the members brought into one organization. In case of failure to unite, an appeal may be made to the Council, which shall decide what action shall be taken.

Sec. 5. Each county society shall judge of the qualifications of its own members, but, as such societies are the only portals to this Society and to the American Medical Association, every reputable and legally registered white physician who is practicing, or who will agree to practice, non-sectarian medicine, shall be entitled to membership. Before a charter is issued to any county society, full and ample notice and opportunity shall be given to every such physician in the county to become a member.

Sec. 6. Any physician who may feel aggrieved by the action of the society of his county in refusing him membership, or in suspending or expelling him, shall have the right of appeal to the Council and to the House of Delegates.

Sec. 7. In hearing appeals, the Council may admit oral or written evidence, as in its judgment will best and most fairly present the facts; but in case of every appeal, both as a board and as individual councillors

in district and county work, efforts at conciliation and compromise shall precede all such hearings.

SEC. 8. When a member in good standing in a component society moves to another county in this State, his name, upon request, shall be transferred without cost to the roster of the county society into whose jurisdiction he moves.

SEC. 9. A physician living on or near a county line may hold his membership in that county most convenient for him to attend, on permission of the society in whose jurisdiction he resides.

SEC. 10. Each county society shall have general direction of the affairs of the profession in the county, and its influence shall be constantly exerted for bettering the scientific, moral and material condition of every physician in the county; and systematic efforts shall be made by each member, and by the society as a whole, to increase the membership until it embraces every qualified physician in the county.

SEC. 11. Frequent meetings shall be encouraged, and the most attractive programs arranged that are possible. The younger members shall be especially encouraged to do post-graduate and original research work, and to give the Society the first benefit of such labors. Official position and other preferments shall be unstintingly given to such members.

SEC. 12. At some meeting in advance of the annual session of this Society prior to the first day of April, each county society shall elect a delegate or delegates with alternates, to represent it in the House of Delegates of this Society in the proportion of one delegate to each twenty-five members or major-fraction thereof, and the secretary of the society shall send a list of such delegates with alternates to the Secretary of this Society before the first day of April preceding the annual sessions.

SEC. 13. The secretary of each county society shall keep a roster of its members, and a list of the non-affiiliated registered physicians of the county, in which shall be shown the full name, address, college and date of graduation, date of license to practice in this State, and such other information as may be deemed necessary. He shall furnish an official report containing such information, upon blanks supplied him for the purpose, to the Secretary of this Society before the first day of April in each year, and at the same time that the dues accruing from the annual assessment are sent in. In keeping such roster, the secretary shall note any changes in the personnel of the profession by death, or by removal to or from the county, and in making his annual report he shall be certain to account for every physician who has lived in the county during the year.

CHAPTER XV.—ORDER OF BUSINESS.

SECTION 1. General Meetings.

The President, or, in his absence, one of the Vice-Presidents, in the order of their rank, shall call the Society to order, or in the absence of all these officers, a presiding officer shall be chosen by a majority of the members present.

Address of Welcome. Response.

Any business requiring early attention may be introduced by permission and without discussion referred to the Council, the House of Delegates, or the appropriate committee.

The President's Address.

Reports of Committees.

Reports from the House of Delegates.

Reports from the Council.

Written communications upon medical subjects may be read and discussed. This shall include reports from sections as arranged each year by the program.

The Annual Oration.

The Annual Essay.

The Annual Debate.

Oral Communications and Clinical Reports read and discussed.

Final Reports from the Council.

Final Reports from the House of Delegates.

Final Reports from Committees.

Report to the General Meeting from the House of Delegates appointing the time and place of next session.

Report from the House of Delegates of the Election of Officers and Committees.

Appointment of Chairmen of Sections by President.

Adjournment.

SEC. 2. The House of Delegates.

The President, or in his absence, one of the Vice-Presidents in the order of their rank, shall call the Society to order, or in the absence of all these officers a presiding officer shall be chosen by a majority of the members present.

Roll-call.

The President's Message.

Report of Committee on Credentials.

Reports of Committees.

Reports of Officers.

Reports of the Council.

Communications from the General Meeting of the Society.

Reports from the County Societies.

Appointment of Committee on Nominations.

New Business.

General Discussion of Measures for the Advancement of the Profession.

Reports of Committees.

Election of Officers and Committees.

Selection of Place and Time of Next Meeting.

Unfinished Business.

Adjournment.

(While there may at times appropriately be a variation from the details of the above outline of business procedure, it is the intention of these By-Laws to so arrange that the work other than the purely scientific part of the Society's proceedings be done in the Council and House of Delegates, and the general meetings of the Society be devoted exclusively to scientific work.)

CHAPTER XVI.—Amendments.

These By-Laws may be amended at any annual session by a majority vote of all the delegates present at that session, after the amendment has laid upon the table for one day.

Explanatory.—"The principles set forth in the Declaration of Principles of Medical Ethics of the American Medical Association shall govern the conduct of members in their relations to each other and to the public."—*Constitution and By-Laws Medical Society of the State of North Carolina, adopted at Hot Springs, N. C., June 2, 1903; Chapter XII—Rules of Conduct.* Also see report Committee on Ethics, pages 37 and 38, Trans. N. C. Med. Soc., 1903.

Principles of Medical Ethics.

(Extract from the Proceedings of the American Medical Association at the annual session in New Orleans, May, 1903.)

Report of Committee on Medical Ethics.

Dr. E. Elliot Harris, New York, read the following report:

To the President and Members of the House of Delegates of the American Medical Association:

Your enlarged Committee on Medical Ethics, consisting of the Special Committee and one delegate from each State, have unanimously adopted the following report, entitled the "Principles of Medical Ethics of the American Medical Association," which is herewith submitted.

The following report of the Special Committee shall be printed as an explanatory preface to the Principles of Medical Ethics of the American Medical Association:

Gentlemen:—Your committee has given extended and careful thought to the proposed revision of the Code of Medical Ethics referred to it for consideration. As you will note on reference to the caption of the report, the word "code" has been eliminated and the expression "Principles of Medical Ethics of the American Medical Association" adopted as adequately descriptive. In reference to this change, it is proper to say that such action on its part is based on the idea that the American Medical Association may be conceived to occupy some such relation to the constituent State associations as the United States, through its Constitution, holds to the several States. The committee, for this reason, regards it as wiser to formulate the principles of medical ethics without definite reference to "code" or penalties, thus leaving the respective States to form such code, and establish such rules as they may regard to be fitting and proper, for regulating the professional conduct of their members, provided, of course, that in doing so there shall be no infringement on the established ethical principles of this Association. The committee regard as wise and well intended to facilitate the business of the parent organization and promote its harmony this course, which leaves the State association large discretionary powers concerning membership and other admittedly State affairs. Your committee has retained, to a large extent, the phraseology of the existing code, while aiming at condensation of expression and a better understanding of some of its statements. The report of the committee has been reached unanimously, without dissension or distrust on the part of its members, each aiming to formulate a result based on principle alone, and without regard to any past or present disagreements or misunderstandings

whatsoever; such being the case, the committee invites your candid and unprejudiced attention to the results of its labor, feeling that at least some good has been accomplished.

Respectfully submitted,

E. Eliot Harris, *Chairman.*
William H. Welch.
T. J. Happel.
Joseph D. Bryant.

The report of the committee was unanimously adopted.

Principles of Medical Ethics.

(Adopted at the annual session in New Orleans, May, 1903.)

The American Medical Association promulgates as a suggestive and advisory document the following:

CHAPTER I.—The Duties of Physicians to Their Patients.

Section 1. Physicians should not only be ever ready to obey the calls of the sick and the injured, but should be mindful of the high character of their mission and of the responsibilities they must incur in the discharge of momentous duties: In their ministrations they should never forget that the comfort, the health, and the lives of those intrusted to their care depend on skill, attention and fidelity. In deportment they should unite tenderness, cheerfulness and firmness, and thus inspire all sufferers with gratitude, respect, and confidence. These obesrvations are the more sacred because, generally, the only tribunal to adjudge penalties for unkindness, carelessness or neglect is their own conscience.

Sec. 2. Every patient committed to the charge of a physician should be treated with attention and humanity, and reasonable indulgence should be granted to the caprices of the sick. Secrecy and delicacy should be strictly observed; and the familiar and confidential intercourse to which physicians are admitted, in their professional visits, should be guarded with the most scrupulous fidelity and honor.

Sec. 3. The obligation of secrecy extends beyond the period of professional services; none of the privacies of individual or domestic life, no infirmity of disposition, or flaw of character observed during medical attendance should ever be divulged by physicians, except when imperatively required by the laws of the State. The force of the obligation of secrecy is so great that physicians have been protected in its observance by courts of justice.

Sec. 4. Frequent visits to the sick are often requisite, since they enable the physician to arrive at a more perfect knowledge of the disease, and to meet promptly every change which may occur. Unnecessary visits are to be avoided, as they give undue anxiety to the patient; but to secure the patient against irritating suspense and disappointment, the regular and periodical visits of the physician should be made as nearly as possible at the hour when they may be reasonably expected by the patient.

SEC. 5. Ordinarily, the physician should not be forward to make gloomy prognostications, but should not fail, on proper occasions, to give timely notice of dangerous manifestations to the friends of the patient, and even to the patient, if absolutely necessary. This notice, however, is at times so peculiarly alarming when given by the physician that its deliverance may often be preferably assigned to another person of good judgment.

SEC. 6. The physician should be a minister of hope and comfort to the sick, since life may be lengthened or shortened not only by the acts but by the words or manners of the physician, whose solemn duty it is to avoid all utterances and actions having a tendency to discourage and depress the patient.

SEC. 7. The medical attendant ought not to abandon a patient because deemed incurable, for continued attention may be highly useful to the sufferer and comforting to the relatives, even in the last period of the fatal malady by alleviating pain and by soothing mental anguish.

SEC. 8. The opportunity which a physician has of promoting and strengthening the good resolutions of patients suffering under the consequences of evil conduct ought never to be neglected. Good counsels, or even remonstrances, will give satisfaction, not offense, if they be tactfully proffered and evince a genuine love of virtue, accompanied by a sincere interest in the welfare of the person to whom they are addressed.

CHAPTER II.—THE DUTIES OF PHYSICIANS TO EACH OTHER AND TO THE PROFESSION AT LARGE.

ARTICLE I.—DUTIES OR THE SUPPORT OF THE PROFESSIONAL CHARACTER.

SECTION 1. Every one on entering the profession, and thereby becoming entitled to full professional fellowship, incurs an obligation to uphold its dignity and honor, to exalt its standing and to extend the bounds of its usefulness. It is inconsistent with the principles of medical science and it is incompatible with honorable standing in the profession for physicians to designate their practice as based on an exclusive dogma or a sectarian system of medicine.

SEC. 2. The physician should observe strictly such laws as are instituted for the government of the members of the profession; should honor the fraternity as a body; should endeavor to promote the science and art of medicine, and should entertain a due respect for those seniors who, by their labors, have contributed to its advancement.

SEC. 3. Every physician should identify himself with the organized body of his profession as represented in the community in which he resides. The organization of local or county medical societies, where they do not exist, should be effected, so far as practicable. Such county societies, constituting as they do the chief element of strength in the organization of the profession, should have the active support of their members, and should be made instruments for the cultivation of fellowship, for the exchange of professional experience, for the advance-

ment of medical knowledge, for the maintenance of ethical standards, and for the promotion in general of the interests of the profession and the welfare of the public.

SEC. 4. All county medical societies thus organized ought to place themselves in affiliation with their respective State associations, and these, in turn, with the American Medical Association.

SEC. 5. There is no profession from the members of which greater purity of character and a higher standard of moral excellence are required than the medical; and to attain such eminence is a duty every physician owes alike to the profession and to patients. It is due to the patients, as without it their respect and confidence cannot be commanded, and to the profession because no scientific attainments can compensate for the want of correct moral principles.

SEC. 6. It is incumbent on physicians to be temperate in all things, for the practice of medicine requires the unremitting exercise of a clear and vigorous understanding; and in emergencies—for which no physician should be unprepared—a steady hand, an acute eye and an unclouded mind are essential to the welfare and even to the life of a human being.

SEC. 7. It is incompatible with honorable standing in the profession to resort to public advertisements or private cards inviting the attention of the persons affected with particular disease; to promise radical cures; to publish cases or operations in the daily prints, or to suffer such publications to be made; to invite laymen (other than relatives who may desire to be at hand) to be present at operations; to boast of cures and remedies; to adduce certificates of skill and success, or to employ any of the other methods of charlatans.

SEC. 8. It is equally derogatory to professional character for physicians to hold patents for any surgical instruments or medicines; to accept rebates on prescriptions or surgical appliances; to assist unqualified persons to evade the legal restrictions governing the practice of medicine; or to dispense or promote the use of secret medicines, for if such nostrums are of real efficacy, any concealment regarding them is inconsistent with beneficence and professional liberality, and if mystery alone gives them public notoriety, such craft implies either disgraceful ignorance or fraudulent avarice. It is highly reprehensible for physicians to give certificates attesting the efficacy of secret medicines, or other substances used therapeutically.

ARTICLE II.—PROFESSIONAL SERVICES OF PHYSICIANS TO EACH OTHER.

SECTION 1. Physicians should not, as a general rule, undertake the treatment of themselves, nor of members of their family. In such circumstances they are peculiarly dependent on each other; therefore, kind offices and professional aid should always be cheerfully and gratuitously afforded. These visits ought not, however, to be obtrusively made, as they may give rise to embarrassment or interefere with that free choice on which such confidence depends.

SEC. 2. All practicing physicians and their immediate family dependents are entitled to the gratuitous services of any one or more of the physicians residing near them.

SEC. 3. When a physician is summoned from a distance to the bedside of a colleague in easy financial circumstances, a compensation proportionate to traveling expenses and to the pecuniary loss entailed by absence from the accustomed field of professional labor, should be made by the patient or relatives.

SEC. 4. When more than one physician is attending another, one of the number should take charge of the case, otherwise the concert of thought and action so essential to wise treatment cannot be assured.

SEC. 5. The affairs of life, the pursuit of health, and the various accidents and contingencies to which a physician is peculiarly exposed, sometimes require the temporary withdrawal of this physician from daily professional labor and the appointment of a colleague to act for a specified time. The colleague's compliance is an act of courtesy which should always be performed with the utmost consideration for the interest and character of the family physician.

ARTICLE III.—THE DUTIES OF PHYSICIANS IN REGARD TO CONSULTATIONS.

SECTION 1. The broadest dictates of humanity should be obeyed by physicians whenever and wherever their services are needed to meet the emergencies of disease or accident.

SEC. 2. Consultations should be promoted in difficult cases, as they contribute to confidence and more enlarged views of practice.

SEC. 3. The utmost punctuality should be observed in the visits of physicians when they are to hold consultations, and this is generally practicable, for society has been so considerate as to allow the plea of a professional engagement to take precedence over all others.

SEC. 4. As professional engagements may sometimes cause delay in attendance, the physician who first arrives should wait for a reasonable time, after which the consultation should be considered as postponed to a new appointment.

SEC. 5. In consultations no insincerity, rivalry or envy should be indulged in; candor, probity and all due respect should be observed toward the physician in charge of the case.

SEC. 6. No statement or discussion of the case should take place before the patient or friends, except in the presence of all the physicians attending, or by their common consent; and no opinions or prognostications should be delivered which were not the result of previous deliberation and concurrence.

SEC. 7. No decision should restrain the attending physician from making such consequent variations in the mode of treatment as any unexpected change in the character of the case may demand. But at the next consultation reasons for the variations should be stated. The same privilege, with its obligation, belongs to the consultant when sent for in an emergency during the absence of the family physician.

SEC. 8. The attending physician at any time may prescribe for the patient; not so the consultant, when alone, except in a case of emergency or when called from a considerable distance. In the first instance the consultant should do what is needed, and in the second should do no more than make an examination of the patient, and leave a written opinion, under seal, to be delivered to the attending physician.

SEC. 9. All decisions in consultation should be held as confidential. Neither by words nor by manner should any of the participants in a consultation assert or initimate that any part of the treatment pursued did not receive his assent.

SEC. 10. It may happen that two physicians cannot agree in their views of the nature of a case and of the treatment to be pursued. In the event of such disagreement a third physician should, if practicable, be called in. None but the rarest and most exceptional circumstances would justify the consultant in taking charge of the case. He should not do so merely on the solicitation of the patient or friends.

SEC. 11. A physician who is called in consultation should observe the most honorable and scrupulous regard for the character and standing of the attending physician, whose conduct of the case should be justified as far as can be, consistently with the conscientious regard for truth, and no hint or insinuation should be thrown out which could impair the confidence reposed in the attending physician.

ARTICLE IV.—DUTIES OF PHYSICIANS IN CASES OF INTERFERENCE.

SECTION 1. Medicine being a liberal profession, those admitted to its ranks should found their expectations of practice especially on the character and the extent of their medical education.

SEC. 2. The physician, in his intercourse with a patient under the care of another physician, should observe the strictest caution and reserve; should give no disingenious hints relative to the nature and treatment of the patient's disorder, nor should the course of conduct of the physician, directly or indirectly, tend to diminish the trust reposed in the attending physician.

SEC. 3. The same circumspection should be observed when, from motives of business or friendship, a physician is prompted to visit a person who is under the direction of another physician. Indeed, such visits should be avoided, except under peculiar circumstances; and when they are made, no inquiries should be instituted relative to the nature of the disease, or the remedies employed, but the topics of conversation should be as foreign to the case as circumstances will admit.

SEC. 4. A physician ought not to take charge of, or prescribe for, a patient who has recently been under the care of another physician, in the same illness, except in case of a sudden emergency or in consultation with the physician previously in attendance, or when that physician has relinquished the case or has been dismissed in due form.

SEC. 5. The physician acting in conformity with the preceding section should not make damaging insinuations regarding the practice previously adopted, and, indeed, should justify it if consistent with truth and probity; for it often happens that patients become dissatisfied when they are not immediately relieved, and, as many diseases are naturally protracted, the seeming want of success, in the first stage of treatment, affords no evidence of a lack of professional knowledge and skill.

SEC. 6. When a physician is called to an urgent case, because the family attendant is not at hand, unless assistance in consultation is desired, the former should resign the care of the patient immediately on the arrival of the family physician.

SEC. 7. It often happens, in cases of sudden illness, and of accidents and injuries, owing to the alarm and anxiety of friends, that several physicians are simultaneously summoned. Under these circumstances, courtesy should assign the patient to the first who arrives, and who, if necessary, may invoke the aid of some of those present. In such a case, however, the acting physician should request that the family physician be called, and should withdraw unless requested to continue in attendance.

SEC. 8. Whenever a physician is called to the patient of another physican during the enforced absence of that physician, the case should be relinquished on the return of the latter.

SEC. 9. A physician, while visiting a sick person in the country, may be asked to see another physician's patient because of a sudden aggravation of the disease. On such an occasion the immediate needs of the patient should be attended to and the case relinquished on the arrival of the attending physician.

SEC. 10. When a physician who has been engaged to attend an obstetric case is absent, and another is sent for, delivery being accomplished during the vicarious attendance, the acting physician is entitled to the professional fee, but must resign the patient on the arrival of the physician first engaged.

ARTICLE V.—DIFFERENCES BETWEEN PHYSICIANS.

SECTION 1. Diversity of opinion and opposition of interest may, in the medical as in other professions, sometimes occasion controversy and even contention. Whenever such unfortunate cases occur and cannot be immediately adjusted, they should be referred to the arbitration of a sufficient number of impartial physicians.

SEC. 2. A peculiar reserve must be maintained by physicians toward the public in regard to some professional questions, and as there exist many points in medical ethics and etiquette through which the feelings of physicians may be painfully assailed in their intercourse, and which cannot be understood or appreciated by general society, neither the subject-matter of their differences nor the adjudication of the arbitrators should be made public.

ARTICLE VI.—COMPENSATION.

SECTION 1. By the members of no profession are eleemosynary services more liberally dispensed than by the medical, but justice requires that some limits should be placed to their performance. Poverty, mutual professional obligations and certain of the public duties named in sections 1 and 2 of Chapter III, should always be recognized as presenting valid claims for gratuitous services; but neither institutions endowed by the public or by the rich, or by societies for mutual benefit, for life insurance, or for analogous purposes, nor any profession or occupation, can be admitted to possess such privilege.

SEC. 2. It cannot be justly expected of physicians to furnish certificates of inability to serve on juries, or to perform militia duty; to testify to the state of health of persons wishing to insure their lives, obtain pensions, or the like, without due compensation. But to persons in indigent circumstances such services should always be cheerfully and freely accorded.

SEC. 3. Some general rules should be adopted by the physicians in every town or district relative to the minimum pecuniary acknowledgment from their patients; and it should be deemed a point of honor to adhere to these rules with as much uniformity as varying circumstances will admit.

SEC. 4. It is derogatory to professional character for physicians to pay or offer to pay commissions to any person whatsoever who may recommend to them patients requiring general or special treatment or surgical operations. It is equally derogatory to professional character of physicians to solicit or to receive such commissions.

CHAPTER III.—THE DUTIES OF THE PROFESSION TO THE PUBLIC.

SECTION 1. As good citizens it is the duty of physicians to be very vigilant for the welfare of the community, and to bear their part in sustaining its laws, institutions and burdens; especially should they be ready to co-operate with the proper authorities in the administration and in the observance of sanitary laws and regulations, and they should also be ever ready to give counsel to the public in relation to subjects especially appertaining to their profession, as on questions of sanitary police, public hygiene and legal medicine.

SEC. 2. It is the province of physicians to enlighten the public in regard to quarantine regulations; to the location, arrangement and dietaries of hospitals, asylums, schools, prisons, and similar institutions; in regard to measures for the prevention of epidemic and contagious diseases; and when pestilence prevails, it is their duty to face the danger, and to continue their labors for the alleviation of the suffering people even at the risk of their own lives.

SEC. 3. Physicians, when called on by legally constituted authorities, should always be ready to enlighten inquests and courts of justice on

subjects strictly medical, such as involve questions relating to sanity, legitimacy, murder by poison or other violent means, and various other subjects embraced in the science of medical jurisprudence. It is but just, however, for them to expect due compensation for their services.

SEC. 4. It is the duty of physicians, who are frequent witnesses of the great wrongs committed by charlatans, and of the injury to health and even destruction of life caused by the use of their treatment, to enlighten the public on these subjects, and to make known the injuries sustained by the unwary from the devices and pretensions of artful imposters.

SEC. 5. It is the duty of physicians to recognize and by legitimate patronage to promote the profession of pharmacy, on the skill and proficiency of which depends the reliability of remedies, but any pharmacist who, although educated in his own profession is not a qualified physician, and who assumes to prescribe for the sick, ought not to receive such countenance and support. Any druggist or pharmacist who dispenses deteriorated or sophisticated drugs, or who substitutes one remedy for another designated in a prescription, ought thereby to forfeit the recognition and influence of physicians.

CONSTIUTION AND BY-LAWS

FOR

COUNTY MEDICAL SOCIETIES.

(Approved by the Medical Society of the State of North Carolina at the Annual Session in Hot Springs, N. C., June 2, 1903.)

See page 35, Transactions 1903.

Introductory.

The Committee on Organization of the American Medical Association, which was continued at the Saratoga meeting, herewith submits a tentative Constitution and By-Laws for County Societies, and in doing so desires to say, that while the provisions it contains are deemed essential to good organization, some of the provisions are suggestive and educational in character and may not be applicable to every county or section. In such cases these may be omitted, or others more appropriate substituted for them. In any event, the high ideals for the individual physician, and the spirit of courtesy and kindness which should govern him in his dealings with his professional neighbors, are here set forth for thought and consideration.

The committee is not a unit as to whether there should be charged an admission fee as called for in section 1, chapter V, of the By-Laws, but the majority of the committee believes that this is the correct principle for the average individual does not appreciate that which he gets for nothing, and furthermore that if an admission fee is charged the individual will not be as likely to drop out of the Society as if he obtained his membership for nothing. The committee advises, however, that in organizing a county society, or before adopting the new constitution, that the charter shall be open for all the county who are eligible and admit such charter members without the admission fee.

We close this report by making a quotation from our report when we submitted the Constitution and By-Laws for State societies:

Much in the by-laws submitted may be regarded as "preaching," but it is inserted advisedly, with the sole object of arousing in the minds of each medical society member a desire for the accomplishment of greater ends than has been permitted by the customs and forms of the past. The committee earnestly desires that the State committees will continue the work of perfecting organization, actuated by that love for our profession that its ideals demand. With the medical profession well organ-

ized, medical science will more rapidly step to its appointed high place, and the profession which lives in its atmosphere will have that power and respect in the community that is its right.

J. N. McCORMACK, Bowling Green, Ky.,
P. MAXWELL FOSHAY, Cleveland, Ohio,
GEORGE H. SIMMONS, Chicago, Illinois,
Committee of the American Medical Association.

The Constitution and By-Laws for county societies is merely suggestive and may be amended or altered to meet local conditions, such alterations being, of course, in harmony with the general plan of organization of the State Society.

J. HOWELL WAY,
M. H. FLETCHER,
GEO. W. PRESSLEY,
J. A. BURROUGHS,
H. A. ROYSTER,
Committee of the Medical Society of the State of North Carolina.

Constitution.

ARTICLE I.—NAME AND TITLE OF THE SOCIETY.

The name and title of this organization shall be the ..... County Medical Society.

ARTICLE II.—PURPOSES OF THE SOCIETY.

The purposes of this Society shall be to bring into one organization the physicians of ..... county; so that by frequent meetings and full and frank interchange of views they may secure intelligent unity and harmony in every phase of their labor as will elevate and make effective the opinions of the profession in all scientific, legislative, public health, material and social affairs, to the end that the profession may receive that respect and support within its own ranks and from the community to which its honorable history and great achievements entitle it; and with other county societies to form the Medical Society of the State of North Carolina, and through it with other State associations, to form and maintain the American Medical Association.

ARTICLE III.—ELIGIBILITY.

Every legally registered physician residing and practicing in ..... county, who is of good moral and professional standing and who does not practice or claim to practice sectarian medicine, shall be eligible for membership.

ARTICLE IV.—MEETINGS.

Regular meetings shall be held at such time and place as may be determined by the Society. Special meetings may be called by the President on a written request of five members. Calls for special meet-

ings shall state the object of such meeting, and no business except that stated in the call shall be transacted at such meeting.

ARTICLE V.

The officers of this Society shall consist of a President, Vice-President Secretary, Treasurer, Delegates, and Board of (three) Censors. These officers, except the Delegates and Board of Censors, shall be elected annually for a term of one year. Delegates shall be elected for two years, or in accordance with the Constitution and By-Laws of the State Association. One member of the Board of Censors shall be elected each year to serve for three years, provided that at the first election after the adoption of this Constitution one member of the board shall be elected for one, one for two, and one for three years.

ARTICLE VI.—Funds and Expenses.

Funds for meeting the expenses of the Society shall be raised by admission fee, annual dues, special assessments and voluntary contributions. Funds may be appropriated by vote of the Society for such purposes as will promote its welfare and that of the profession.

ARTICLE VII.—Charter.

The Society shall apply to the State Society for a charter at the meeting at which this Constitution and By-Laws are adopted, or as soon thereafter as practicable, and the charter shall be kept in the custody of the Secretary.

ARTICLE VIII.—Incorporation.

The Society shall have authority to appoint a Board of Trustees and to provide for articles of incorporation whenever it may deem the same necessary.

ARTICLE IX.—Amendments.

The Society may amend any article of this Constitution by a two-thirds vote of its members at any regular meeting, provided that such amendment shall have been read in open session at a previous regular meeting, and shall have been sent by mail to each member ten days in advance of the meeting at which final action is to be taken.

By-Laws.

CHAPTER I.—Membership.

Section 1. The Society shall judge of the qualification of its members, but as it is the only door to the State Medical Society and to the American Medical Association or physicians within its jurisdiction every reputable and legally qualified physician in ..... county, who does not practice or claim to practice sectarian medicine, shall be entitled to membership.

SEC. 2. A candidate for membership shall make application in writing, and shall state his age, his college and date of graduation, the places in which he has practiced, and the date of registration in this State. The application must be accompanied by the admission fee, and must be endorsed by two members of this Society. It shall be referred to the Board of Censors, who shall inquire into the standing of the applicant, assure themselves that he or she is duly registered according to the laws of the State, and report at the next regular meeting of this Society. Election shall be by ballot, and two-thirds of the votes of the members present and voting shall be necessary to elect. The application shall be returned to the Secretary, who shall file it for future reference Applications for membership from rejected candidates shall not be received within six months of such rejection.

SEC. 3. A physician accompanying his application with a transfer card from another component county society of this or any State within sixty days of the issuance of said card, may be admitted without fee on a majority vote of the members present, and without the application being referred to the Board of Censors. Such applications may be acted on at the meeting at which they are presented on the vote of three-fourths of the members present, otherwise they shall lie over until the next regular meeting. No annual dues for the current year shall be charged against such members, provided the same have been paid to the Society from which the applicant comes.

SEC. 4. A physician residing in an immediately adjoining county may become a member of this Society in like manner and on the same terms as a physician living in this county, on permission of the county society of the county in which the applicant lives, if there be one, or of the State Councillor for this jurisdiction.

SEC. 5. A member in good standing who is free from all indebtedness to this Society, and against whom no charges are pending, wishing to withdraw, shall be granted a transfer card. This card shall state the date the member associated himself with this Society, the date of issuance of the card, and shall be signed by the President and Secretary. It shall be accompanied with a copy of the application presented at the time the member joined the Society, for information to the society to which the member desires to attach himself.

SEC. 6. All members shall be equally privileged to attend all meetings and take part in all proceedings, and shall be eligible to any office of honor within the gift of the Society, so long as they conform to this Constitution and By-Laws, including the payment of the dues to this Society and to the State Society: *Provided,* that no member under sentence of expulsion shall take part in any of the proceedings, or be eligible to any office until relieved of such disability. And provided further, that none of the privileges of membership shall be extended to any person not a member of this Society, except on a majority vote of the Society in regular meeting.

SEC. 7. A member who is guilty of a criminal offence or gross misconduct, either as a physician or as citizen, or who violates any of the provisions of this Constitution and By-Laws, shall be liable to censure suspension or expulsion. Charges against a member must be made in writing and be delivered to the Secretary, who shall immediately furnish a copy to the accused and to the chairman of the Board of Censors. The Board of Censors shall investigate the charges on their merits, but no action shall be taken by the Board before giving the accused and accusers ample opportunity to be heard. Nor shall any action be taken by the Board within ten days of the presentation of the charges to the accused. The Board shall report (1) that the charges are not sustained; or (2) that the charges are sustained, and that the accused be (*a*) censured; (*b*) suspended for a definite time, or (*c*) expelled. Censure or suspension shall require a two-thirds vote of the members present and voting, and a three-fourths vote of those present and voting shall be required to expel a member. No action shall be taken by the Society in such cases until at least six weeks have elapsed since the filing of the charges. A member suspended for a definite time shall be retinstated at the expiration of the time, without action on his part or on the part of the Society.

SEC. 8. Kindly efforts in the interest of peace, conciliation or reformation, so far as possible and expedient, shall precede the filing of formal charges affecting the character or standing of a member, and the accused shall have opportunity to be heard in his own defence in all trials and proceedings of this nature.

SEC. 9. Members expelled from this Society for any cause shall be eligible for membership after one year from date of expulsion, and on the same terms and in like manner as original applicants.

CHAPTER II.—POWERS AND DUTIES.

SECTION 1. This Society shall have general direction of the affairs of the medical profession of the county, and its influence shall be constantly exerted to better the scientific, material and social condition of every physician within its jurisdiction. Systematic efforts shall be made by each member, and by the Society as a whole, to increase the membership until it embraces every reputable physician in the county.

SEC. 2. A meeting shall be held at .... p. m. on the ..... in each month (or oftener). ..... members shall constitute a quorum. The officers and committee on program shall profit by experience and by the example of other similar societies, and strive to arrange for the most attractive and successful proceedings for each meeting. Younger members especially shall be encouraged to do post-graduate and original research work, and to give this Society the first results of such labors. Crisp papers and discussions and reports of cases shall be arranged for and encouraged, and tedious and profitless proceedings and discussions shall be avoided as far as practicable.

SEC. 3. One meeting during each year may be set apart for a discussion of the business affairs of the profession of the county, with the view of adopting the best methods for the guidance of all. In all proper ways the public shall be taught business methods and prompt collections are essential to the equipment of the modern physician and surgeon, and that it suffers even more than the profession when this is not recognized.

SEC. 5. The Society shall endeavor to educate its members to the belief that the physician should be a leader in his community, in character, in learning, in dignified and manly bearing, and in courteous and open treatment of his brother physicians, to the end that the profession may occupy that place in its own and the public estimation to which it is entitled.

CHAPTER III.—OFFICERS.

SECTION 1. The officers of the Society shall be elected at the (December) meeting in each year, which shall be known as the annual meeting. Nominations shall be made by informal ballot, and all elections shall be by ballot. The vote of a majority of all the members present shall be necessary to an election.

SEC. 2. The President shall preside at all meetings of the Society, and perform such other duties as custom and parliamentary usage may require. He shall be the real head of the profession in the county during the year, and it shall be his pride and ambition to leave it in better condition as regards both scientific attainments and harmony than at the beginning of his term of office.

SEC. 3. The Vice-President shall assist the President in the performance of his duties, shall preside in his absence, and, on his death, resignation or removal from the county, shall succeed to the presidency.

SEC. 4. The Secretary shall record the minutes of the meetings and receive and care for all records and papers belonging to the Society, including its charter. He shall keep account of and promptly turn over to the Treasurer all funds of the Society which may come into his hands He shall make and keep a correct list of the members of the Society in good standing, noting of each his correct name, address, place and date of graduation, and the date of the certificate entitling him to practice medicine; and in a separate list he shall note the same facts in regard to each legally qualified physician in this county not a member of this Society. It shall be his duty to send a copy of such lists, on blank forms furnished him for that purpose, to the Secretary of the State Society, at such time as may be designated by the State Society. In making such lists, he shall endeavor to account for each physician who has moved into or out of the county during the year, stating, when possible, both his present and past address. At the same time, and with his report of such lists of members and physicians, he shall transmit to the State Society his order on the Treasurer for the annual dues of the Society.

SEC. 5. The Treasurer shall receive all dues and money belonging to the Society from the hands of the Secretary or members, and shall pay out the same only on the written order of the Secretary.

SEC. 6. The delegates shall attend and faithfully represent the members of this Society and the profession of this county in the House of Delegates of the State Society, and shall make a report of the proceedings of that body to this Society at the earliest opportunity.

CHAPTER IV.—COMMITTEES.

SECTION 1. There shall be a Board of Censors as provided in the Constitution, a standing Committee on Programs and Scientific Work a Committee on Public Health and Legislation, and such special committees as may from time to time be deemed necessary.

SEC. 2. *Board of Censors.*—This Board, consisting of three members one elected annually, shall examine and report on the qualification of applicants for membership, subjecting each applicant to such examination as it may deem necessary. It shall investigate charges preferred against a member, and report its conclusions and recommendations to the Society. In case of the absence of a member of the Board, the President may appoint some member to fill the vacancy. The senior member of the Board in point of service shall be chairman of the Board.

SEC. 3. *Committee on Program and Scientific Work.*—This committee shall consist of the President, Vice-President, and Secretary. It shall be its duty to promote the scientific and social functions of the Society by arranging attractive programs for each meeting, and by urging each member to take part in the scientific work. It shall stimulate fraternalism and good feeling among the members in every way possible.

SEC. 4. *Committee on Public Health and Legislation.*—This committee shall consist of three members, who shall be appointed annually by the President. It shall be its duty to enforce and support the sanitary and medical laws of the State in this county, to co-operate with the legislative committee of the State Society in all matters pertaining to legislation, and to prosecute quacks and medical pretenders in this county.

CHAPTER V.—FUNDS AND EXPENSES.

SECTION 1. The admission fee, which must accompany the application, shall be $5.00, and shall include the annual dues for the fiscal year, provided that when more than one-half of the fiscal year has elapsed at the time of election of a member, one-half of the annual dues shall be remitted, making the admission fee in such cases $4.00. The admission fee shall be returned if the applicant is not accepted.

SEC. 2. The annual dues shall be $2.00, and shall be payable on January 1st of each year. Any member who shall fail to pay his annual dues by April 1st shall be held as suspended without action on the part of the Society. A member suspended for non-payment of dues shall be

restored to full membership on payment of all indebtedness. Members more than one year in arrears shall be dropped from the roll of members.

SEC. 3. The fiscal year of this Society shall be from January to December, inclusive.

CHAPTER VI.—ORDER OF BUSINESS.

The order of business shall be as follows:

1. Call to order by the President.
2. Reading of minutes of last meeting.
3. Clinical cases.
4. Papers and discussions.
5. Unfinished business.
6. Miscellaneous business.
7. Announcements.
8. Adjournment.

CHAPTER VII.—RULES OF ORDER.

The deliberations of this Society shall be governed by parliamentary usage as contained in Roberts' Rules of Order, unless otherwise determined by vote.

CHAPTER VIII.—PRINCIPLES OF ETHICS.

The Principles of Ethics of the American Medical Association and of the Medical Society of the State of North Carolina shall be the Code of this Society.

CHAPTER IX.—AMENDMENTS.

These By-Laws may be amended at any regular meeting by a two-thirds vote thereof, provided that such amendment has been read in open session at the preceding regular meeting, and a copy of the same has been sent to each member by the Secretary ten days in advance of the meeting at which final action is to be taken.

Alphabetical List of Members of the Medical Society of the State of North Carolina, with County in Which Local Membership and Residence is Indicated.

Name.	*County.*
Anderson, C. A.	Alamance
Ashe, E. S.	Anson
Ambler, Chase P.	Buncombe
Archer, I. J.	Buncombe
Anderson, Paul V.	Burke
Anderson, Jas. R.	Burke
Archey, L. M.	Cabarrus
Adams, L. C.	Carteret
Abernethy, H. L.	Catawba
Abernethy, W. L.	Catawba
Abernethy, J. F.	Cherokee
Aydlette, J. P.	Cleveland
Averitt, K. G.	Cumberland
Anderson, Abel	Davidson
Adams, C. A.	Durham
Ashworth, C. A.	Forsythe
Adams, C. E.	Gaston
Anders, McT. G.	Gaston
Angle, J. B.	Guilford
Armfield, D. A.	Guilford
Arnold, L. J.	Harnett
Abel, J. F.	Haywood
Allen, R. L.	Haywood
Allen, T. A.	Henderson-Polk
Adams, M. R.	Iredell-Alexander
Anderson, Thos. E.,	Iredell-Alexander
Abernethy, H. N.	Lincoln
Ashworth, B. L.	McDowell
Abernethy, J. S.	Mecklenburg
Alexander, J. R.	Mecklenburg
Alexander, Annie L.,	Mecklenburg
Alexander, H. Q.	Mecklenburg
Austin, J. A.	Mecklenburg
Achorn, J. Warren	Moore
Asbury, F. E.	Montgomery
Anders, W. K.	New Hanover
Akerman, Joseph	New Hanover
Abernethy, E. A.	Orange
Attmore, Geo. S.	Pamlico
Aydelette, H. T.,	Pasquotank-Camden-Dare
Alexander, L. L.	Pender
Atkins, G. J.	Rowan
Andrews, R. M.	Rutherford
Allen, Joseph A.	Stanly
Anderson, J. N.	Stanly
Allred, E. W.	Surry
Ashby, Thos. B.	Surry
Armfield, R.	Union
Ashcraft, J. E.	Union
Alston, B. P.	Vance
Alston, Willis	Warren
Alston, Willis Jr.	Warren
Abernethy, C. O.	Wake
Aaron, L. P.	Wayne
Anderson, Albert	Wilson
Anderson, W. H.	Wilson
Anderson, W. S.	Wilson
Austin, W. M.	Yancey
Barrett, W. W.	Anson
Beckwith, R. B.	Anson
Bennett, J. H.	Anson
Ballou, J. L.	Ashe
Barton, J. H.	Ashe
Blevins, Manly	Ashe
Blount, W. A.	Beaufort
Blount, J. G.	Beaufort
Bonner, H. M.	Beaufort
Brown, Ed. M.	Beaufort
Bullock, W. J.	Beaufort
Battle, S. W.	Buncombe
Briggs, H. H.	Buncombe
Brookshire, H. G.	Buncombe
Brown, Thos. E. W.	Buncombe
Brownson, W. C.	Buncombe
Burroughs, Jas. A.	Buncombe
Barrier, P. A.	Cabarrus
Black, J. C.	Cabarrus
Burleyson, L. N.	Cabarrus
Bonner, K. P. B.	Carteret
Badgett, J. F.	Caswell
Baker, R. B.	Catawba
Burns, Wm.	Chatham
Blake, J. F.	Columbus
Boyce, J. M.	Columbus
Bullock, T. C.	Cumberland
Beall, J. F.	Davidson
Bird, Joseph	Davidson
Bowers, A. H.	Davidson
Buchanan E. J.	Davidson
Byerly, A. B.	Davie
Boddie, N. P.	Durham
Baker, J. M.	Edgecombe
Brothers, E. J.	Edgecombe

Name.	*County.*
Bahnson, H. T.	Forsythe
Bynum, John	Forsythe
Bynum, Wahe H.	Forsythe
Burt, S. P.	Franklin
Boyette, E. C.	Gaston
Bunting, R. C.	Gaston
Brooks, G. C.	Gates
Brock, G. F.	Graham
Booth, S. D.	Granville
Booth, T. L.	Granville
Bannor, C. W.	Guilford
Battle, J. T. J.	Guilford
Beall, W. P.	Guilford
Beall, Louis G.	Guilford
Bowman, H. P.	Guilford
Boyles, J. H.	Guilford
Broadnax, J. G.	Guilford
Brooks, J. E.	Guilford
Brooks, E. Z.	Guilford
Burrous, John T.	Guilford
Burbage, T. J.	Hertford
Bell, A. E.	Iredell-Alexander
Burgin, H. F.	Jackson
Beam, J. L.	Lincoln
Browner, J. A.	Macon-Clay
Baird, J. H.	Madison
Burnett, I. E.	Madison
Brevard, R. J.	Mecklenburg
Bruner, J.	Mecklenburg
Blair, A. M.	Moore
Bowman, H. E.	Montgomery
Battle, Jas. P.	Nash
Brantley, C. H.	Nash
Brantley, Hassell	Nash
Bell, Chas. D.	New Hanover
Bellamy, W. J. H.	New Hanover
Bellamy, R. H.	New Hanover
Bausemam, C. H.	New Hanover
Bullock, D. W.	New Hanover
Burbank, T. S.	New Hanover
Belton, Mahlen	Northampton
Blount, F. H.	Onslow
Bradford, R. H.	Pender
Baynes, R. S.	Person
Boyles, A. C.	Person
Bradsher, W. A.	Person
Brown, Zene	Pitt
Basnight, T. G.	Pitt
Brown, G. W.	Richmond
Brown, J. P.	Robeson
Baird, C. A.	Rockingham
Balsley, T. E.	Rockingham
Boaz, T. A.	Rockingham
Brooks, E. H.	Rockingham
Brawley, R. V.	Rowan
Brown, J. Stevens	Rowan
Brown, Geo. A.	Rowan
Busby, J. G.	Rowan
Bostic, W. C.	Rutherford
Blue, K. A.	Scotland
Bennett, A. M.	Swain
Brooks, Whitfield	Transylvania
Blair, J. M.	Union
Bass, H. H.	Vance
Browning, B. Ray	Warren
Battle, K. P. Jr.	Wake
Banks, T. L.	Wake
Bell, G. M.	Wake
Blalock, N. M.	Wake
Boone, W. H.	Wake
Buffalo, J. S.	Wake
Burt, B. W.	Wake
Benton, Geo. R.	Wayne
Billings, Arthur E.	Wilkes
Bryant, C. G.	Wilkes
Barnes, B. F.	Wilson
Blackwell, T. L.	Yadkin
Carpenter, S. B.	Anson
Covington, J. M.	Anson
Covington, J. M. Jr.	Anson
Call, T. J.	Ashe
Colvard, J. W.	Ashe
Capehart, A.	Bertie
Clark, Geo. L.	Bladen
Cromartie, R. S.	Bladen
Curtis, W. G.	Brunswick
Calloway, A. W.	Buncombe
Carraway, J. F.	Buncombe
Cheeseborough, Thos. P.,	Buncombe
Clemenger, F. J.	Buncombe
Clentz, W. J.	Buncombe
Cotten, Clyde E.	Buncombe
Carroll, J. L.	Buncombe
Carroll, R. S.	Buncombe
Cocke, Jere	Buncombe
Caldwell, D. G.	Cabarrus
Caldwell, M. M.	Cabarrus
Carter, G. H.	Caldwell
Corpening, Oscar J.	Caldwell
Chapin, A. B.	Carteret
Clarke, F. M.	Carteret
Campbell, Jas. R.	Catawba
Childs, J. A.	Catawba
Chapin, H. T.	Chatham
Casteel, L. R.	Cherokee
Champion, C. O.	Cleveland
Caton, Geo. A.	Craven
Cathell, J. E.	Davidson
Clodfelter, Chas. M.	Davidson
Carroll, J. W.	Duplin
Carr, Jno. R.	Durham

Name.	*County.*
Cheatham, Arch.	Durham
Carr, J. B.	Edgecombe
Copple, T. M.	Forsythe
Clark, K. M.	Franklin
Corbell, E. F.	Gates
Cannaday, S. H.	Granville
Collins, Jno. A.	Halifax
Campbell, Archibald,	Iredell-Alexander
Cloninger, L. V.,	Iredell-Alexander
Candler, Chas. Z.	Jackson
Candler, J. M.	Jackson
Crowell, L. A.	Lincoln
Cheek, B. A.	McDowell
Craven, W. P.	Mecklenburg
Crowell, A. J.	Mecklenburg
Crowell, S. M.	Mecklenburg
Costner, T. F.	Mecklenburg
Clark, Geo. T.	Mecklenburg
Caveness, A. H.	Moore
Covington, L. C.	Nash
Collier, Geo. K.	New Hanover
Cranmer, J. B.	New Hanover
Coppedge, N. P.	Northampton
Carstarphen, Wm. T.,	Northampton
Cook, I. H.	Northampton
Cox, E. L.	Onslow
Clark, J. T.	Pamlico
Crowell, W. H.	Pender
Cox, B. T.	Pitt
Croom, A. B.	Robeson
Croom, J. D.	Robeson
Caldwell, J. A.	Rowan
Chenault, W. F.	Rowan
Councill, Jeff. B.	Rowan
Cowan, Robt. L.	Rowan
Crump, W. L.	Rowan
Clement, E. B.	Rowan
Chapman, G. M.	Rutherford
F. A. Carpenter	
Cooper, F. J.	Sampson
Cooper, G. M.	Sampson
Campbell, J. I.	Stanly
Cooper, J. A.	Swain
Cannon, J. A.	Transylvania
Cheatham Goode	Transylvania
Coggeshall, G. A.	Vance
Caveness, Z. M.	Wake
Cooke, Fred. K.	Wake
Cotten, A. T.	Wake
Cohen, B. W.	Washington
Cobb, W. H. H.	Wayne
Cobb, W. H. Jr.	Wayne
Crawford, W. B.	Wayne
Carlton, R. L.	Wilkes

Name.	*County.*
Crocker, Wm. D.	Wilson
Crocker, S. H.	Wilson
Clingman, J. J.	Yadkin
Dunlap, J. M.	Anson
Dixon, W. H.	Beaufort
Desher, J. Arthur	Brunswick
David, J. E.	Buncombe
Dunn, Wm. L.	Buncombe
Davis, Geo.	Carteret
Duncan, C. L.	Carteret
Duffy, Chas.	Craven
Duffy, Frank	Craven
Dugoid, J. A.	Craven
Dugoid, J. W.	Craven
Duffy, Leinster	Craven
Disosway, A. W.	Craven
Dye, Jno. C.	Cumberland
Dorsett, H. W.	Davidson
Dalton, D. N.	Forsythe
Dalton, W. N.	Forsythe
Davis, A. P.	Forsythe
Davis, J. W.	Forsythe
Davis, W. W.	Gaston
Dodson, H. H.	Guilford
Davis, W. C.	Guilford
Denning, O. L.	Harnett
Davis, F. M.	Haywood
Drafts, A. B.	Henderson-Polk
Dixon, Guy E.	Henderson-Polk
Doster, J. L.	McDowell
Davidson, J. E.	Mecklenburg
DeArmond, J. Mc.	Mecklenburg
Daligny, Chas.	Montgomery
Dew, S. P.	Nash
Dudley, G. J.	Onslow
Daniels, O. C.	Pamlico
Dees, D. A.	Pamlico
Davis, J. J.,	Pasquotank-Camden-Dare
Dawson, W. W.	Pitt
Dixon, Joseph	Pitt
Dickson, A. P.	Robeson
Davis, T. W.	Rockingham
Dicks, Jas. F.	Rockingham
Dorsett, E. Rose	Rowan
Dicks, D. E.	Stokes
Davis, Robt. L.	Swain
Dees, W. A.	Union
Dixon-Carroll, E. Delia	Wake
Dickenson, E. T.	Wilson
Evans, L. B.	Bladen
Elias, Lewis W.	Buncombe
Everhart, W. H.	Catawba

Name.	*County.*
Edwards, J. D.	Chatham
Ellis, Robt. C.	Cleveland
Eddleman, H. M.	Gaston
Edwards, G. C.	Greene
Edgerton, J. L.	Henderson-Polk
English, I. L.	Madison
Ellis, A. J.	Northampton
Everett, A. C.	Richmond
Evans, Wm. E.	Robeson
Ellington, Sam.	Rockingham
Everington, Geo. D.	Scotland
Ellington, J. H.	Stokes
English, Ed. S.	Transylvania
Ewbanks, J. B.	Union
Early, J. W.	Washington
Exum, W. P. Jr.	Wayne
Eller, A. J.	Wilkes
Edwards, C. P.	Yancey
Faucett, T. S.	Alamance
Freeman, R. A.	Alamance
Fletcher, M. H.	Buncombe
Flew, J. W.	Cabarrus
Foil, M. A.	Cabarrus
Flowers, B. G.	Caldwell
Flowers, C. E.	Caldwell
Feard, Fred. F.	Catawba
Falls, B. F.	Cleveland
Floyd, A. G.	Columbus
Fitzgerald, J. Y.	Davidson
Faison, Jno. M.	Duplin
Fearington, J. P.	Forsyth
Flynt, S. S.	Forsyth
Floyd, R. P.	Franklin
Fortune, A. F.	Guilford
Fox, M. F.	Guilford
Flagg, P. W.	Guilford
Ferguson, H. B.	Halifax
Fenner, Ed. F.	Halifax
Few, Columbus	Henderson-Polk
Freeman, W. G.	Hertford
Frisbee, J. T.	Madison
Faison, I. W.	Mecklenburg
Ferguson, K. M.	Moore
Fearing, I.,	Pasquotank-Camden-Dare
Fearing, Zenos,	Pasquotank-Camden-Dare
Ferrebee, C. G.,	Pasquotank-Camden-Dare
Fearing, W. B.,	Pasquotank-Camden-Dare
Fountain, Wm.	Pitt
Fox, D. L.	Randolph
Fox, Thos. I.	Randolph
Fowlkes, J. I.	Richmond

Name.	*County.*
Fitzgerald, J. F.	Rowan
Flippen, J. Meigs	Rowan
Foust, I. H.	Rowan
Fulp, Elias	Stokes
Flippen, R. E. L.	Surry
Flippen, S. T.	Surry
Folger, W. C.	Surry
Ferrebee, C. G.	Vance
Ferrebee, E. B.	Wake
Fowler, M. L.	Wake
Farthing, L. E.	Watauga
Faison, W. W.	Wayne
Freeman, H. F.	Wilson
Fassett, B. W.	Yadkin
Goley, W. R.	Alamance
Goley, W. R.	Brunswick
Goodman, E. G.	Brunswick
Glenn, E. B.	Buncombe
Gouger, G. J.	Cabarrus
Grier, S. A.	Cabarrus
George, D. S.	Carteret
Graham, Wm. A.	Cherokee
Goode, W. A.	Cleveland
Gold, G. M.	Cleveland
Gregg, W. T.	Cleveland
Gore, D. N.	Columbus
Graham, Geo. A.	Cumberland
Garrington, J. F.	Currituck
Griggs, W. T.	Currituck
Graham, B. R.	Duplin
Graham, Joseph	Durham
Graham, Wm. A.	Durham
Garren, R. H.	Gaston
Garrison, D. A.	Gaston
Glenn, H. F.	Gaston
Glenn, L. N.	Gaston
Gilmer, C. S.	Guilford
Gordon, J. R.	Guilford
Gove, Anna M.	Guilford
Gray, Claiborn	Guilford
Grimsley, J. E.	Guilford
Glasscock, Joy Harris	Guilford
Green, I. E.	Halifax
Greenwood, B. H.	Haywood
Goelet, E. B.	Henderson-Polk
Grady, Earl	Henderson-Polk
Greenwood, S. E.,	Henderson-Polk
Guerard, Arthur R.,	Henderson-Polk
Grady, J. C.	Johnston
Griffin, J. A.	Johnston
Garren, R. H.	McDowell
Gilbert, W. W.	McDowell
Graham, Joseph	Mecklenburg
Graham, W. A.	Mecklenburg

Name.	*County.*
Graham, Geo. W.	Mecklenburg
Gibbon, John H.	Mecklenburg
Gibbon, Robt. L.	Mecklenburg
Gladmon, Edwin	Moore
Gilmore, W. D.	Moore
Galloway, W. C.	New Hanover
Griggs, J. B.,	Pasquotank-Camden-Dare
Griggs, W. W.,	Pasquotank-Camden-Dare
Grimes, R. J.	Pitt
Garrett, F. J.	Richmond
Gaither, J. B.	Rowan
Goodman, A. B.	Rowan
Gibson, J. S.	Scotland
Gibson, M. R.	Scotland
Garner, H. H.	Transylvania
Gill, R. J.	Vance
Gaines, L. M.	Wake
Goodwin, A. W.	Wake
Ginn, T. L.	Wayne
Gilreath, F. H.	Wilkes
Gibbs, J. B.	Yancey
Hart, J. E.	Anson
Hardy, Ira M.	Beaufort
Hunter, H. H.	Beaufort
Harrell, W. J.	Bertie
Hoggard, Jno. T.	Bertie
Horton, E. H.	Bertie
Harris, I. A.	Buncombe
Hilliard, W. D.	Buncombe
Holmes, L. E.	Buncombe
Hall, Jas. K.	Burke
Hennessee, E. A.	Burke
Headen, W. E.	Carteret
Herman, F. L.	Catawba
Highway, S. C.	Cherokee
Houser, E. A.	Cleveland
Houser, W. H.	Cleveland
Hall, J. Clegg	Columbus
Hammond, A. F.	Craven
Hughes, F. W.	Craven
Haigh, T. D.	Cumberland
Highsmith, Seavy	Cumberland
Highsmith, J. F.	Cumberland
Hill, D. J.	Davidson
Hill, Joel	Davidson
Hill, W. L.	Duplin
Hicks, C. S.	Durham
Hicks, W. N.	Durham
Holt, E. M.	Durham
Holt, W. P.	Durham
Holloway, R. L.	Durham
Harrell, S. N.	Edgecombe
Haines, J. L.	Forsyth
Harris, J. H.	Franklin
Hatch, P. R.	Franklin
Henderson, R. B.	Franklin
Hay, W. S.	Gaston
Hunter, B. R.	Gaston
Hunter, M. C.	Gaston
Howell, S. F.	Graham
Hooper, L. D.	Graham
Hays, Ben. K.	Granville
Hardee, P. R.	Granville
Holloway, O. W.	Granville
Harper, James H.	Greene
Harrison, Edmund	Guilford
Hilton, J. J.	Guilford
Hughes, Geo. H.	Guilford
Holt, W. T.	Guilford
Harrison, A. S.	Halifax
Hoyt, A. C.	Halifax
Harper, M. W.	Harnett
Halford, J. W.	Harnett
Hicks, I. F.	Harnett
Highsmith, Chas.	Harnett
Holt, W. P.	Harnett
Hudson, W. L.	Harnett
Hall, E. A.	Iredell-Alexander
Harrill, L.	Iredell-Alexander
Houck, Albert	Iredell-Alexander
Hooper, Delos D.	Jackson
Hooks, Thel.	Johnston
Hargrove, W. F.	Lenoir
Hodges, J. M.	Lenoir
Hoover, Chas. H.	Lincoln
Hargrove, W. H.	Martin
Hawley, F. O.	Mecklenburg
Henderson, S. M.	Mecklenburg
Herron, A. M.	Mecklenburg
Hunter, L. W.	Mecklenburg
Hunter, Wm. M.	Mecklenburg
Hovis, Leighton	Mecklenburg
Hoyle, Hughes B.	Moore
Harris, A. H.	New Hanover
Harper, Chas. T.	New Hanover
Honnett, J. H.	New Hanover
Hall, Wright	New Hanover
Hester, J. R.	Orange
Hughes, C. M.	Orange
Henly, Sam. A.	Randolph
Hubbard, C. C.	Randolph
Hunter, J. V.	Randolph
Hodgin, H. H.	Robeson
Henderson, A. G.	Rowan
Heathman, J. D.	Rowan
Heilig, H. G.	Rowan
Harris, E. B.	Rutherford
Harrell, L. B.	Rutherford

Name.	*County.*
Hamrick, T. G.	Rutherford
Hicks, O.	Rutherford
Hicks, Romeo	Rutherford
Haynes, B. M.	Rutherford
Holiday, R. H.	Sampson
Holmes, F. H.	Sampson
Hamer, A. W.	Scotland
Hartsell, F. E.	Stanly
Hathcock, T. A.	Stanly
Hill, W. I.	Stanly
Hill, L. H.	Stokes
Hollingsworth, Ed. M.	Surry
Hollingsworth, J. M.	Surry
Hollingsworth, R. E.	Surry
Hollingsworth, J. B.	Surry
Holt, Russell D.	Swain
Hunt, C. W.	Transylvania
Hunter, J. V.	Union
Houston, H. C.	Union
Harris, F. R.	Vance
Harris, H. H.	Wake
Hayden, Catherine P.	Wake
Haywood, F. J.	Wake
Haywood, Hubert	Wake
Hines, P. E.	Wake
Hocutt, B. A.	Wake
Holding, S. P.	Wake
Horton, W. C.	Wake
Hassell, J. L.	Washington
Hassell, Stark	Washington
Halsey, B. F.	Washington
Hardison, W. H.	Washington
Hodges, J. M.	Watauga
Hayes, L. O.	Wayne
Hill, Thos.	Wayne
Hamby, C. L.	Wilkes
Horton, W. P.	Wilkes
Herring, B. S.	Wilson
Holcomb, C. M.	Yadkin
Hutchins, E. M.	Yadkin
Harding, T. R.	Yadkin
Hall, J. M.	Yancey
Ivey, W. P.	Caldwell
Irvin, Jno. R.	Mecklenburg
Ingram, C. B.	Montgomery
Jones, A. L.	Ashe
Jones, T. J.	Ashe
Jones, R. W.	Ashe
Jenkins, P. C.	Bertie
Jordan, Chas. S.	Buncombe
Jerome, J. R.	Cabarrus
Jones, A. D.	Caldwell
Johnson, J. T.	Catawba
Johnson, Thos. C.	Columbus
Jordan, D. B.	Columbus
Jones, R. DuVal	Craven
Julian, Chas. A.	Davidson
Jones, A. J.	Duplin
Johnson, N. M.	Durham
Jordan, A. C.	Durham
Jewett, R. D.	Forsyth
Jenkins, J. H.	Gaston
Jones, J. W.	Guilford
Jordan, G. E.	Guilford
Jones, W. M. Jr.	Guilford
Justice, J. T.	Guilford
Jurney, P. C.	Iredell-Alexander
Johnson, Floyd	Johnston
Justice, Jas. F.	Johnston
Jones, Harry M.	Macon-Clay
Justice, M. L.	McDowell
Johnson, Alice E.	Moore
Joyner, T. D.	Northampton
James, F. C.	Pitt
Jones, C. M.	Pitt
Joyner, C. C.	Pitt
Jonas, J. F.	Rutherford
John, Peter	Scotland
Jones, A. G.	Stokes
Jenkins, C. L.	Wake
Johnson, R. W.	Wake
Jones, A. O.	Wake
Jordan, T. M.	Wake
Jordan, W. S.	Wake
Judd, J. M.	Wake
Jones, W. J.	Wayne
Kerr, J. Edwin	Anson
Kellum, Wm. D.	Beaufort
King, R. M.	Cabarrus
Kent, A. A.	Caldwell
Kirkman, T. A.	Chatham
Killebrew, C. B.	Edgecombe
Kapp, H. H.	Forsyth
Kernodle, G. W.	Guilford
Knight, W. P.	Guilford
Kirkpatrick, Wm. L.	Haywood
Kirk, Wm. R.	Henderson-Polk
King, J. E.	Iredell-Alexander
Klutz, E. E.	Iredell-Alexander
Killiam, R. B.	Lincoln
Kiser, W. C.	Lincoln
Knight, J. B.	Martin
Kirby, Guy S.	McDowell
King, Parks M.	Mecklenburg
Knox, John	Mecklenburg
Keerans, L. C.	Mecklenburg
Koonce, S. E.	New Hanover

Name.	*County.*
Kinsman, H. F.	Richmond
Kirkpatrick, L. R.	Robeson
Kerr, C. S.	Sampson
King, O. D.	Stanly
King, M. M.	Transylvania
Knox, A. W.	Wake
Kennedy, J. B.	Wayne
Kornegay, L. W.	Wayne
Long, Geo. W.	Alamance
Lemly, S. T.	Ashe
Lucas, W. H. G.	Bladen
Laird, E. C.	Buncombe
Lee, P. H.	Buncombe
Lafferty, J. S.	Cabarrus
Lilly, W. H.	Cabarrus
Love, B. E.	Caswell
Little, Q. M.	Catawba
Long, Fred. Y.	Catawba
Long, T. W.	Catawba
Lattimore, E. B.	Cleveland
Lee, L. V.	Cleveland
Lane, Jno. L.	Duplin
Linville, A. Y.	Forsyth
Lockett, E. A.	Forsyth
Lott, H. S.	Forsyth
Lee, W. C. P.	Gates
Ledbetter, A. E.	Guilford
Little, Thos. R.	Guilford
Long, Jno. W.	Guilford
Logan, Jno. E.	Guilford
Leggett, K.	Halifax
Lee, S. P. J.	Harnett
Long, H. F.	Iredell-Alexander
Lassiter, D. B.	Johnston
Lapham, Mary E.	Macon-Clay
Lyle, S. H.	Macon-Clay
Long, B. L.	Martin
Littlejohn, R. N.	Mecklenburg
Lafferty, R. S.	Mecklenburg
Luper, D. H.	Mecklenburg
Laster, P. D.	Moore
Love, L. H.	New Hanover
Lamb, R. B.,	Pasquotank-Camden-Dare
Lumsden, W. J.,	Pasquotank-Camden-Dare
Lucas, Geo. F.	Perquimans
Laughinghouse, Chas. O'H.	Pitt
Lewis, C. H.	Randolph
Ledbetter, J. M.	Richmond
Lovelace, T. B.	Rutherford
Lee, A. M.	Sampson
Lee, R. E.	Sampson
Lilly, J. M.	Stanly
Leak, J. J.	Stokes
Lyda, A. E.	Transylvania
Lyda, W. M.	Transylvania
Lewis, R. H.	Wake
Lane, W. K.	Wayne
Lamm, I. W.	Wilson
Leak, W. G.	Yadkin
Montgomery, H. M.	Alamance
Moore, H. R.	Alamance
Meisenheimer, T. F.	Anson
Mariner, N. C.	Beaufort
Mitchell, Wayland	Bertie
Moore, Tilon V.	Brunswick
Merriwether, F. T.	Buncombe
Merrimon, Louise A.	Buncombe
Minor, C. L.	Buncombe
Morris, E. R.	Buncombe
Murphy, P. L.	Burke
Mattocks, C. J.	Caldwell
Malloy, S. A.	Caswell
Menzies, H. C.	Catawba
Moser, D. M.	Catawba
Mitchell, W. F.	Cleveland
Morrison, Rufus R.	Cleveland
Maxwell, H. B.	Columbus
Marsh, J. H.	Cumberland
Mann, S. M.	Currituck
Mack, J. H.	Davidson
Myers, J. A.	Davidson
Martin, W. C.	Davie
Murphy, J. G.	Duplin
Mann, T. A.	Durham
Manning, J. M.	Durham
Moore, R. A.	Durham
Mercer, W. P.	Edgecombe
Malone, J. E.	Franklin
Mann, J. J.	Franklin
Matheson, J. P.	Gaston
Maxwell, M. F.	Graham
Meadows, E. B.	Granville
Morris, J. A.	Granville
Murphy, W. B.	Greene
Meadows, W. J.	Guilford
Michaux, E. R.	Guilford
Miles, May S.	Guilford
Moore, J. L.	Guilford
Melvin, W. C.	Harnett
Moore, F. T.	Harnett
Mease, J. H.	Haywood
Medford, S. B.	Haywood
Moore, J. E.	Haywood
Mitchell, J. H.	Hertford
Moore, J. T.	Iredell-Alexander
Moore, N. G.	Iredell-Alexander

Name.	*County.*
Moore, F. T.	Johnston
Munns, L. A.	Johnston
Monk, H. G.	Lenoir
Morphew, M. F.	McDowell
Martin, Mary L.	Mecklenburg
Mason, R. E.	Mecklenburg
Meisenheimer, C. A.	Mecklenburg
Montgomery, J. C.	Mecklenburg
Moore, B. S.	Mecklenburg
Munroe, H. S.	Mecklenburg
Munroe, J. P.	Mecklenburg
Matheson, J. P.	Mecklenburg
Monroe, A. J.	Moore
Monroe, J. P.	Moore
Monroe, W. A.	Moore
Miller, R. B.	Nash
Mariott, M. B.	Nash
Matthews, T. A.	Nash
Moorehead, R. P.	Northampton
Montford, W. J.	Onslow
Manning, I. H.	Orange
Mangum, C. S.	Orange
Murphy, W. E.	Orange
Morrill, D. S.	Pitt
Morrill, Jenness	Pitt
Moye, E. A. Jr.	Pitt
Moore, W. J.	Randolph
Martin, S. L.	Rockingham
Matherson, R. C.	Rockingham
Monk, H. L.	Rowan
Matthews, J. O.	Sampson
Moir, S. A.	Stokes
Moore, W. B.	Stokes
Macon, P. J.	Warren
Mashburn, B. D.	Wake
Mashburn, H. H.	Wake
Miller, R. B.	Wayne
Myers, J. Q.	Wilkes
Moore, C. E.	Wilson
Moore, E. G.	Wilson
Matthews, M. L.	Yadkin
Matthews, J. M.	Yadkin
McPherson, J. W.	Alamance
McPherson, L. D.	Alamance
McBrayer, L. B.	Buncombe
McCracken, C. M.	Buncombe
McLean, J. N.	Buncombe
McCampbell, Jno. M.	Burke
McNairy, C. B.	Caldwell
McBride, M. H.	Caswell
McBrayer, T. E.	Cleveland
McKay, J. L.	Cleveland
McGougan, J. M.	Columbus
McGougan, J. V.	Cumberland
McKethan, Jno. C.	Cumberland
McLean, Chas. E.	Gaston
McAnally, W. J.	Guilford
McCombs, C. J.	Harnett
McKay, A. M.	Harnett
McKay, Jno. A.	Harnett
McKay, J. F.	Harnett
McLean, J. W.	Harnett
McNeil, Wm. M.	Harnett
McCracken, J. R.	Haywood
McFayden, H. L.	Haywood
McLaughlin, J. E.,	Iredell-Alexander
McDavitt, A. J.	Madison
McLaughlin, C. S.	Mecklenburg
McManaway, C. G.	Mecklenburg
McCoy, Thos. M.	Mecklenburg
McDonald, A. A.	Moore
McIver, Lynn	Moore
McLeod, A. H.	Moore
McLeod, Gilbert	Moore
McDonald, A. D.	New Hanover
McMillan, W. D.	New Hanover
MacNider, Wm. DeB.	Orange
McMullan, Oscar,	Pasquotank-Camden-Dare
McFayden, Paul R.	Randolph
McEachern, E. C.	Richmond
McPhail, L. D.	Richmond
McIntyre, D. C.	Robeson
McKinnon, W. H.	Robeson
McMillan, Ben. F.	Robeson
McMillan, J. D.	Robeson
McMillan, J. L.	Robeson
McNatt, H. W.	Robeson
McPhail, W. P.	Robeson
McAnally, Chas. B.	Rockingham
McGehee, J. W.	Rockingham
McKenzie, W. W.	Rowan
McLean, Neil	Scotland
McCanless, W. L.	Stokes
McCanless, W. V.	Stokes
McClain, W. R.	Union
McCullers, J. J. L.	Wake
McGeachy, R. S.	Wake
McGee, J. W.	Wake
McKee, Jas.	Wake
McGee, J. W. Jr.	Wake
Nicholson, J. T.	Beaufort
Nicholson, P. A.	Beaufort
Nicholson, S. T.	Beaufort
Nowell, L. A.	Bertie
Norman, Geo. W.	Caswell
Newbern, J. M.	Currituck
Nichols, R. E.	Durham

Name.	*County.*
Newall, H. A.	Franklin
Nicholson, W. G., Iredell-Alexander	
Nichols, A. A.	Jackson
Noble, R. J.	Johnston
Nelson, R. J.	Martin
Nisbet, W. O.	Mecklenburg
Nalle, Brodie C.	Mecklenburg
Newell, L. B.	Mecklenburg
Nicholson, J. L.	Onslow
Nobles, J. E.	Pitt
Norment, R. M.	Robeson
Norment, T. A.	Robeson
Northrup, T. L.	Robeson
Neal, J. W.	Stokes
Nance, Geo. B.	Union
Neal, Jno. W.	Union
Orr, C. C.	Buncombe
Orr, Peter B.	Buncombe
Orr, R. J.	Cherokee
Oates, Geo.	Cleveland
O'Kelly, J. M.	Durham
Orr, N. A.	Mecklenburg
Page, Jno. W.	Alamance
Pickett, J. A.	Alamance
Parris, O. J.	Alamance
Pennington, S. E.	Ashe
Pritchard, Jno. L.	Bertie
Paquin, Paul	Buncombe
Purefoy, Geo. W.	Buncombe
Phifer, Ed. W.	Burke
Pemberton, W. D.	Cabarrus
Pharr, T. F.	Cabarrus
Palmer, R. W.	Chatham
Patton, W. O.	Cherokee
Palmer, B. H.	Cleveland
Peeler, C. N.	Cleveland
Pollock, Raymond	Craven
Primrose, R. S.	Craven
Patterson, J. F.	Craven
Peacock, J. W.	Davidson
Patterson, E. C.	Durham
Pfohl, S. F.	Forsyth
Patrick, G. R.	Gaston
Paddison, J. R.	Guilford
Pierce, S. B.	Halifax
Parker, J. Rainey	Hertford
Pollard, W. B.	Hertford
Phifer, F. W.	Iredell-Alexander
Parker, G. E.	Johnston
Person, J. B.	Johnston
Parrott, James M.	Lenoir
Parrott, W. T.	Lenoir
Parrott, A. DeK.	Lenoir

Name.	*County.*
Pridgeon, C. L.	Lenoir
Petrie, R. W.	Lincoln
Proctor, J. B.	Martin
Pharr, W. W.	Mecklenburg
Pressly, Geo. W.	Mecklenburg
Palmer, R. W.	Moore
Phillips, J. B. Jr.	Nash
Parris, D. C.	Orange
Pate, G. M.	Robeson
Pope, H. T.	Robeson
Peele, C. M.	Rowan
Peele, G. M. Van	Rowan
Pate, W. T.	Scotland
Prince, D. M.	Scotland
Philips, M. D.	Stokes
Price, W. H.	Union
Perkins, D. R.	Union
Pendleton, A. S.	Vance
Perry, M. P.	Warren
Peete, C. H.	Warren
Picot, L. J.	Warren
Penny, J. A. J.	Wake
Powers, J. B.	Wake
Powell, W. E.	Goldsboro
Quickel, T. C.	Gaston
Roberts, J. D.	Ashe
Rodman, Jno. C.	Beaufort
Ruffin, J. B	Bertie
Robinson, Newton	Bladen
Reagan, J. A.	Buncombe
Reagan, W. L.	Buncombe
Reed, C. E.	Buncombe
Reynolds, Carl V.	Buncombe
Reynolds, T. F.	Buncombe
Reynolds, J. H.	Buncombe
von Ruck, Karl	Buncombe
von Ruck, Silvio	Buncombe
Riddle, Jos. B.	Burke
Rogers, Francis O.	Cabarrus
Royster, S. S.	Cleveland
Rhein, J. F.	Craven
Ritter, F. W.	Currituck
Rodwell, J. W.	Davie
Ross, Geo. H.	Durham
Rierson, R. L.	Forsyth
Riddick, I. G.	Franklin
Reitzel, C. E.	Franklin
Reid, R. M.	Gaston
Robinson, Frank	Gaston
Reitzel, C. E.	Guilford
Reitzel, J. R.	Guilford
Richardson, W. J.	Guilford
Roberson, Chas.	Guilford

Name.	*County.*
Reives, J. T.	Guilford
Register, F. M.	Guilford
Rogers, McLean	Haywood
Russell, Lloyd P.,	Henderson-Polk
Robinson, G. J.	Johnston
Rose, A. H.	Johnston
Rogers, W. A.	Macon-Clay
Roberts, Frank	Madison
Robinson, W. F.	Madison
Reynolds, J.	Madison
Rhodes, J. S.	Martin
Register, E. C.	Mecklenburg
Reid, Thos. N.	Mecklenburg
Reid, N. R.	Mecklenburg
Russell, E. Reid	Mecklenburg
Russell, F. H.	New Hanover
Robinson, W. A.	Northampton
Reed, D. H.	Northampton
Riddick, T. M.	Perquimans
Riddick, W. M.	Perquimans
Ricks, L. E.	Pitt
Redding, A. H.	Randolph
Rowland, W. H.	Robeson
Reedy, Howard	Robeson
Rosier, R. G.	Robeson
Rosier, S. B.	Robeson
Ray, J. B.	Rockingham
Ramseur, G. A.	Rowan
Reid, Geo. P.	Rutherford
Ring, J. W.	Surry
Roberson, Waxhaw	Union
Ray, O. L.	Wake
Rankin, W. S.	Wake
Rogers, Jas. R.	Wake
Royster, H. A.	Wake
Royster, W. I.	Wake
Roberts, J. D.	Wayne
Robinson, M. E.	Wayne
Royall, M. A.	Yadkin
Ray, J. L.	Yancey
Stafford, W. G.	Alamance
Smith, L. C.	Anson
Small, W. P.	Beaufort
Staley, S. W.	Beaufort
Sawyer, James	Buncombe
Sevier, Dan. E.	Buncombe
Sevier, Jos. T.	Buncombe
Smith, Owen	Buncombe
Stevens, M. L.	Buncombe
Smoot, J. E.	Cabarrus
Shuford, J. H.	Catawba
Skinner, L. C.	Catawba
Self, L. L.	Cleveland
Smith, W. F.	Columbus
Shaw, Henry M.	Currituck
Smith, O. F.	Duplin
Smith, J. A.	Durham
Savage, R. L.	Edgecombe
Speight, R. H.	Edgecombe
Staton, L. L.	Edgecombe
Shaffner, J. F.	Forsyth
Shaffner, J. F. Jr.	Forsyth
Spainhour, E. H.	Forsyth
Spencer, W. O.	Forsyth
Strickland, E. F.	Forsyth
Summers, C. L.	Forsyth
Sloan, J. M.	Gaston
Sanderford, J. F.	Granville
Sikes, G. T.	Granville
Scott, C. L.	Guilford
Stamey, E. L.	Guilford
Stanton, D. A.	Guilford
Swain, J. F.	Guilford
Sexton, C. H.	Harnett
Smith, F.	Harnett
Stringfield, Thos.	Haywood
Stringfield, Sam. L.	Haywood
Sharpe, F. L.	Iredell-Alexander
Self, Wm.	Jackson
Stanly, Jno. H.	Johnston
Smithwick, J. W. P.	Lenoir
Saine, Jno. W.	Lincoln
Siler, F. L.	Macon-Clay
Sullivan, J. M.	Macon-Clay
Saunders, J. H.	Martin
Smithwick, J. E.	Martin
Simmons, Jno. O.	McDowell
Stephenson, C. B.	Mecklenburg
Stone, W. M.	Mecklenburg
Strong, C. M.	Mecklenburg
Strong, W. M.	Mecklenburg
Sheppard, J. L.	Moore
Shields, H. B.	Moore
Snipes, E. P.	Moore
Street, M. Eugene	Moore
Swett, W. P.	Moore
Shamberger, J. B.	Montgomery
Speight, R. H. Jr.	Nash
Strickland, J. T.	Nash
Schonwald, Jno. T.	New Hanover
Stancill, R. H.	Northampton
Stancill, W. W.	Northampton
Stephenson, M. R.	Northampton
Sutton, C. W.	Onslow
Sawyer, C. W.,	Pasquotank-Camden-Dare
Sawyer, W. W.,	Pasquotank-Camden-Dare
Smith, R. W.	Perquimans

Name.	*County.*
Swann, J. F.	Person
Schaub, O. P.	Person
Skinner, L. C.	Pitt
Summers, W. I.	Randolph
Steele, W. H.	Richmond
Stamps, Thos.	Robeson
Stephens, Wm. F.	Robeson
Smith, J. R.	Rockingham
Stewart, J. T.	Rockingham
Sweany, Jno.	Rockingham
Sawyer, C. J.	Rowan
Smoot, M. L.	Rowan
Summerell, E. M.	Rowan
Stokes, J. E.	Rowan
Sikes, G. L.	Sampson
Sloan, Henry	Sampson
Stevens, J. A.	Sampson
Shaw, Daniel	Scotland
Shaw, Wm. G.	Scotland
Slate, J. S.	Stokes
Slate, W. C.	Stokes
Slate, J. W.	Stokes
Smith, J. T.	Stokes
Smith, J. B.	Surry
Stevens, S. A.	Union
Stewart, H. D.	Union
Sorrell, L. P.	Wake
Stevens, Ralph S.	Wake
Speight, J. W.	Washington
Spruill, J. L.	Washington
Smith, R. A.	Wayne
Spicer, J. D.	Wayne
Spicer, John	Wayne
Spicer, William	Wayne
Sutton, W. G.	Wayne
Somers, L. P.	Wilkes
Shore, Thad. W.	Yadkin
Tate, W. N.	Alamance
Thompson, J. B.	Alamance
Tyson, T. D.	Alamance
Thompson, C. D.	Anson
Testerman, J. C.	Ashe
Tayloe, David T.	Beaufort
Tayloe, Joshua	Beaufort
Tayloe, Armistead K.	Beaufort
Tennent, G. S.	Buncombe
Taylor, I. M.	Burke
Thompson, Hugh R.	Burke
Taylor, J. N.	Chatham
Trent, W. J.	Cleveland
Thompson, N. A.	Columbus
Teague, R. J.	Durham
Thigpen, W. J.	Edgecombe
Taylor, W. L.	Granville
Turner, J. A.	Guilford
Turner, J. P.	Guilford
Thames, John	Guilford
Tull, Henry	Lenoir
Tilson, J. C.	Madison
Thompson, Cyrus	Onslow
Thigpen, G. T.	Pitt
Tucker, F. P.	Rockingham
Tuttle, A. F.	Rockingham
Taylor, G. G.	Rockingham
Tankersley, James W.	Rowan
Trantham, H. T.	Rowan
Twitty, J. C.	Rutherford
Twitty, T. B.	Rutherford
Taylor, W. I.	Sampson
Taylor, W. S.	Surry
Thompson, K.	Surry
Teague, J. H.	Swain
Tucker, Jno. H.	Vance
Templeton, Jas. M.	Wake
Thompson, S. W.	Wake
Tucker, H. McKee	Wake
Turlington, W. T.	Wayne
Thompson, R. L.	Wilkes
Underhill, H. P.	Pamlico
Utley, B. S.	Wake
Utley, H. G.	Wake
Utley, H. H.	Wake
Vestal, W. J.	Davidson
Vestal, W. L.	Guilford
Vick, Geo. D.	Johnston
Valentine, Thos.	Northampton
Walker, W. E.	Alamance
Walker, L. A.	Alamance
Watson, Geo. S.	Alamance
Wyatt, J. L.	Anson
Walker, L. S.	Bertie
Watson, D. I.	Brunswick
Weaver, H. B.	Buncombe
Whittington, W. P.	Buncombe
Williams, J. H.	Buncombe
Warlick, E. S.	Burke
White, W. M.	Caldwell
Wilson, C. L.	Caldwell
Wright, J. B.	Caldwell
West, Geo. H.	Catawba
Whitesides, B. F.	Catawba
Wilson, W. E.	Catawba
Webb, Ben. G.	Cherokee
Wood, J. W.	Cleveland
Withers, S. M.	Columbus
Ward, J. M.	Craven

Name.	*County.*
Watson, Leon	Cumberland
Williams, A. F.	Duplin
Williams, J. M.	Duplin
Ward, M. P.	Durham
Wilson, H. F.	Durham
Wilkerson, Chas. B.	Durham
Williams, J. D.	Forsyth
Wright, J. Thos.	Forsyth
Wheless, J. R.	Franklin
Winston, A. R.	Franklin
Wilkins, S. A.	Gaston
Wilson, F. G.	Gaston
Williams, Geo. D.	Gates
Williams, J. B.	Granville
West, Albert	Greene
Whittington, W. W.	Greene
Wilson, A. R.	Guilford
Williams, Jno. R.	Guilford
Williams, Jno. A.	Guilford
Walker, R. L.	Haywood
Way, J. Howell	Haywood
Willis, A. P.	Haywood
Wilson, J. E.	Haywood
Waldrop, J. G.	Henderson-Polk
Ward, J. E.	Iredell-Alexander
Whittaker, R. A.	Lenoir
Woodley, C. B.	Lenoir
Wootten, R. W.	Lenoir
Wise, J. S.	Lincoln
Weaver, W. J.	Madison
Woody, S. B.	Madison
Wakefield, W. H.	Mecklenburg
Walker, C. E.	Mecklenburg
Whisnant, A. M.	Mecklenburg
Winchester, F. M.	Mecklenburg
Witherbee, W. D.	Mecklenburg
Wilder, H. M.	Mecklenburg
Woodley, W. T.	Mecklenburg
Witherspoon, B. J.	Mecklenburg
Wilcox, J. W.	Moore
Whitehead, J. P.	Edgecombe
Whitehead, W. H.	Edgecombe
Whittaker, W. H.	Edgecombe
Wessell, J. C.	New Hanover
Wood, E. J.	New Hanover
Whitehead, R. H.	Orange
Williams, Claude B.,	Pasquotank-Camden-Dare
Wood, J. E.,	Pasquotank-Camden-Dare
Williams, R. J.	Pender
Winslow, C. C.	Perquimans
White, Thos. N.	Perquimans
Wise, J. A.	Person
Whitfield, W. C.	Pitt
Webb, W. P.	Richmond
Williamson, J. H.	Richmond
Wharton, C. R.	Rockingham
Williams, Jno. A.	Rockingham
West, R. M.	Rowan
Whitehead, Jno.	Rowan
Withers, Banks	Rowan
Wiseman, C. B.	Rutherford
Wilson, R. B.	Sampson
Whitley, D. P.	Stanly
Whitley, V. A.	Stanly
Watkins, T. T.	Stokes
Withers, W. W.	Stokes
Woltz, J. L.	Surry
Woltz, J. R.	Surry
Wallis, W. J.	Transylvania
Whitley, A. D. N.	Union
Ward, W. H.	Washington
White, J. W.	Wilkes
Williams, A. F.	Wilson
York, N. D.	Alamance
Young, R. S.	Cabarrus
Yarborough, R. F.	Franklin
Young, James	Iredell-Alexander
Yount, E. M.	Iredell-Alexander
Young, J. J.	Johnston
Young, J. W.	Rowan
Young, G. E.	Rutherford
Young, G. W.	Transylvania
Zimmerman, C. St. V.	Buncombe
Zimmerman, R. U.	Davidson
Zollicoffer, A. B.	Halifax
Zollicoffer, D. B.	Halifax

Members of the Component County Medical Societies of the Medical Society of the State of North Carolina, May 31, 1906.

(Gentlemen will confer a favor upon the Secretary by promptly advising of any errors, deaths, removals or other changes noted. It is desired to preserve the record as accurate as possible, *and it is to be remembered that it will be just so accurate as reported by the county society officers and members.*)

ALAMANCE COUNTY SOCIETY.

*President, W. G. Stafford.....Burlington.
*Secretary, C. A. Anderson.....Burlington.

Members and Address.	*Licensed.*	*Joined State Society.*
Anderson, C. A., Burlington..... Coll. P. & S., Balto., 1900.	1893	1899
Faucett, T. S., Burlington..... Balto. Med. Coll., 1893.	1893	1896
Freeman, R. A., Burlington..... 1 1-2 course Wash. Univ., Balto.	1879	1904
Goley, W. R., Graham..... Coll. P. & S., Balto., 1885.	1885	1893
*Long, Geo. W., Graham..... Univ. Pa., 1877.	1877	1877
McPherson, J. W., Haw River..... Balto. Med. Coll., 1898.	1898	1898
*McPherson, L. D., Haw River..... Univ. Md., 1903.	1903	1903
Montgomery, H. M., Burlington..... N. C. Med. Coll.	1903	1904
Moore, H. R., Burlington..... Coll. P. & S., Atlanta, 1899.	1899	1904
Page, John W., Burlington..... Coll. P. & S., Balto.	....	1904
Parris, O. J., Graham..... Balto. Med. Coll., 1897.	1897	1904
Pickett, J. A., Burlington..... Univ. Nashville, 1894.	1894	1904
Stafford, W. G., Burlington..... Bellevue, N. Y., 1891.	1879	1890
Tate, W. N., Mebane..... Louisv. Med. Coll., 1874.	....	1905

* Registered present at Charlotte, session 1906.

Members and Address.	*Licensed.*	*Joined State Society.*
*Tyson, T. D., Mebane Univ. Col. Med., Va., 1899.	1899	1904
Thompson, J. B., Graham Univ. Coll. Med., Va.	1899	1905
*Walker, W. E., Graham Med. Coll., Va.	1903	1905
*Walker, L. A., Burlington Univ. Coll. Med., Va.	1899	1904
Watson, Geo. S., Elon College Coll. P. & S., Balto., 1874.	....	1904
*York, N. D., Mebane	....	1905

ANSON COUNTY SOCIETY.

*President, J. M. Dunlap.....Ansonville.
Secretary, J. M. Covington, Jr.....Wadesboro.

*Ashe, E. S., Wadesboro Coll. P. & S., Balto., 1885.	1885	1904
Barrett, W. W., Peachland Ky. Sch. Med., 1892.	1897	1904
Beckwith, R. B., Morven Vanderbilt Univ., 1883.	....	1904
Bennett, J. H., Wadesboro Univ. Md., 1894.	1894	1904
Carpenter, S. B., Cedar Hill Univ. N. Y., 1876.	....	1904
Covington, J. M., Wadesboro Med. Coll. S. C., 1874.	1879	1879
Covington, J. M., Jr., Wadesboro Med. Chi., Philadel., 1899.	1899	1904
*Dunlap, J. M., Ansonville Univ. N. Y., 1876.	....	1904
Hart, J. E., Deep Creek Univ. Md., 1897.	....	1904
*Kerr, J. Edwin, Lilesville Univ. Md., 1898.	1898	1898
*Meisenheimer, T. F., Morven Univ. N. Y., 1880.	1881	1881
Smith, L. C., Polkton Balto. Med. Coll., 1892.	....	1904
*Thompson, C. D., Morven Univ. Tenn., 1901.	1901	1904
Wyatt, J. L., Lilesville	....	....

ASHE COUNTY SOCIETY.

President, J. W. Colvard.....Jefferson.
Secretary, J. L. Ballou.....Crumpler.

Members and Address.	*Licensed.*	*Joined State Society.*
Ballou, J. L., Shiprock, N. M. Univ. Nashville, 1901.	1902	1902
Barton, J. H., Weaver's Ford Registered on oath practice prior to 1885.	....	1904
Blevins, Manly, Beaver Creek Registered on oath practice prior to 1885.	....	1904
Call, T. J., Gap Creekmore Grad. P. & S., Balto. Registered on permit B'd. Exs. practice prior to 1885.	....	1904
Colvard, J. W., Jefferson Attended P. & S., Balto., 1 year, 1883.	....	1904
Jones, A. L., Brandon Univ. Coll. Med., Va., 1901.	1901	1904
Jones, T. J., Lansing Tenn. Med. Coll., 1895.	....	1904
Jones, R. W., Clifton	....	1904
Lemly, S. T., Todd	....	1904
Pennington, S. E., Sturgills P. & S., Balto., 1891.	1892	1904
Testerman, J. C., Jefferson	....	1904

BEAUFORT COUNTY SOCIETY.

President, W. P. Small,.....Washington.
*Secretary, Ira M. Hardy.....Washington.

Blount, W. A., Washington Bellevue Med. Coll., 1892.	1892	1894
*Blount, J. G., Washington Bellevue Med. Coll., 1892.	1892	1893
Bonner, H. M., Aurora Med. Coll. Va., 1897.	1897	1902
Brown, E. M., Washington Bellevue Med. Coll., 1896.	1896	1901
Bullock, W. J., Belhaven Univ. Pa., 1858.	....	1904
*Dixon, W. H., Edwards Med. Coll. Va., 1901.	1901	1901
Hardy, Ira M., Washington Med. Coll. Va., 1901.	1902	1902
Hunter, H. H., Pinetown Med. Coll. Va., 1900.	1901	1904
Kellum, Wm. D., Belhaven	....	1904
Mariner, N. C., Belhaven Univ. Coll. Med., Va.	1903	1904

Members and Address.	*Licensed.*	*Joined State Society.*
Nicholson, J. L., Washington Univ. Med., 1904.	1904	1906
Nicholson, J. T., Bath P. & S., Balto., 1885.	1885	1904
Nicholson, P. A., Washington P. & S., Balto., 1889.	1889	1901
Nicholson, S. T., Washington P. & S., Balto., 1881.	1885	1902
*Rodman, Jno. C., Washington Bellevue Med. Coll., 1892.	1892	1895
Small, W. P., Washington Univ. N. Y., 1875.	....	1905
Staley, S. W., Aurora Med. Coll. S. C., 1901.	1901	1904
*Tayloe, David T., Washington Bellevue Med. Coll., 1885.	1885	1885
Tayloe, Joshua, Washington Bellevue Med. Coll., 1892.	1892	1904
Tayloe, Armisted K., Aurora	....	....
*Williams, Jno. W., Washington Univ. Med., 1906.	1906	1906

BERTIE COUNTY SOCIETY.

President, Wayland Mitchell.....Lewiston.
Secretary, E. H. Horton.....Aulander.

Capehart, A., Roxabel Balto. Med. Coll., 1887.	....	1905
*Hoggard, Jno. T., Aulander Univ. Coll. Med., Va., 1906.	1906	1906
Harrell, W. J., Aulander Coll. P. & S., Balto.	....	1892
Horton, E. H., Aulander Coll. P. & S., Balto., 1884.	....	1904
Jenkins, P. C., Robodel Bellevue Med. Col., 1873.	....	1904
Mitchell, Wayland, Lewiston Univ. Md., 1895.	1896	1904
Nowell, L. A., Colerain Univ. Md., 1894.	1894	1905
*Pritchard, Jno. L., Aulander P. & S., Balto., 1906.	1906	1906
*Ruffin, J. B., Powellsville Univ. South., 1898.	1906	1906
*Webb, L. S., Powellsville	....	....

BLADEN COUNTY SOCIETY.

President, W. H. G. Lucas.....White Hall.
Secretary, Newton Robinson.....Elizabethtown.

Members and Address.	*Licensed.*	*Joined State Society.*
*Clark, Geo. L., Clarkton..... Univ. N. Y., 1876.	....	1904
*Cromartie, R. S., Garland..... N. C. Med Coll., 1900.	1900	1906
Evans, L. B., Clarkton..... Univ. Coll. Med., 1900.	1900	1904
Lucas, W. H. G., White Hall..... Univ. Philadel., Pa., 1869.	....	1904
Robinson, Newton, Elizabethtown..... Univ. Philadel., Pa., 1869.	....	1904

BRUNSWICK COUNTY SOCIETY.

President, E. G. Goodman.....El Paso.
Secretary, J. Arthur Dosher.....Southport.

Curtis, W. G., Southport..... Dartmouth Med. Coll., 1846.	....	1904
Dosher, J. Arthur, Southport..... Baltimore Med., 1903.	1903	1903
Goley, W. R., Supply..... Univ. Coll. Med., Va., 1901.	1901	1904
Goodman, E. G., El Paso..... Univ. Md., 1891.	1891	1892
Moore, T. V., Phœnix..... Balto. Med. Coll., 1901.	1901	....
Watson, D. I., Southport..... Univ. Louisville, Ky., 1890.	1890	1891

BUNCOMBE COUNTY SOCIETY.

President, Thos. P. Cheesborough .....Asheville.
Secretary, Gaillard S. Tennent.....Asheville.

Ambler, C. P., Asheville..... West Reserve Univ., O., 1889.	1890	1891
Archer, T. J., Black Mountain..... N. West Univ., Ill., 1896.	1905	1906
*Battle, Samuel W., Asheville..... Bellevue, N. Y., 1875.	....	1887
Ballard, A. M., Asheville..... Howard Univ., 1868.	....	1904
*Briggs, H. H., Asheville..... Univ. Yale, 1897.	1901	1903

Members and Address.	*Licensed.*	*Joined State Society.*
*Brookshire, H. G., Asheville, R. F. D. No. 5 N. C. Med. Coll., 1905.	1905	1906
Brown, T. E. W., Asheville P. & S., N. Y., 1900.	1903	1904
*Brownson, W. C., Asheville Univ. N. Y., 1878.	....	1896
*Burroughs, Jas. A., Asheville Louisville Med. Coll., 1882.	1884	1889
Carraway, J. F., Asheville Med. Coll. S. C., 1900.	1905	1906
Calloway, A. W., Asheville Chic. Homeop. Med. Coll., 1895.	1899	1904
Cheeseborough, T. P., Asheville Univ. N. Y., 1891.	1891	1899
Clemenger, F. J., Asheville Univ. Denver, 1902.	1903	1904
Clentz, W. J., Alexander Vanderbilt Univ., 1888. Registered practice prior to 1885.	....	1904
Cotton, C. E., Black Mountain Univ. Wooster, O., 1889.	1901	1901
Carroll, J. L., Asheville Louisv. Med. Coll., 1905.	1905	1906
Carroll, R. S., Asheville Rush Med. Coll., 1897.	1905	1906
Cocke, Jere, Asheville Louisv. Med. Coll., 1905.	1905	1906
David, J. E., Biltmore Univ. Pa., 1897.	1897	1904
*Dunn, W. L., Asheville Univ. Mich., 1900.	1900	1900
*Elias, Lewis W., Asheville P. & S., N. Y., 1903.	1906	1906
*Fletcher, M. H., Asheville Bellevue Med. Coll., 1881.	1881	1881
*Glenn, E. B., Asheville Jeff. Med. Coll., 1896.	1896	1899
Harris, I. A., Jupiter One course Jeff. Med. Coll., 1860.	1885	1894
Hilliard, W. D., Asheville Jeff. Med. Coll., 1878.	1881	1881
*Holmes, L. E., Biltmore Univ. Pa., 1897.	1901	1903
Jordan, C. S., Asheville Univ. N. Y., 1890.	1891	1899
*Laird, E. C., Asheville Univ. Md., 1877.	....	1900

Members and Address.	*Licensed.*	*Joined State Society.*
Lee, P. H., Asheville Univ. Nashville, 1894.	1898	1904
*McBrayer, L. B., Asheville Louisville Med. Coll., 1889.	1891	1899
McCracken, C. M., Fairview Non-Grad. N. C. Med. Coll.	1896	1904
McLean, J. N., Democrat Tenn. Med. Coll., 1899.	....	1904
Meriwether, F. T., Asheville Univ. Louisville, Ky., 1886.	1888	1888
Merrimon, Louise A., Asheville Woman's Med. Coll., 1900.	1899	1904
Minor, C. L., Asheville Univ. Va., 1888.	1895	1898
Morris, E. R., Asheville Louisville Med. Coll., 1896.	1896	1899
Orr, Peter B., Asheville Jeff. Med. Coll., 1901.	1901	1904
Orr, C. C., Asheville Univ. Md., 1904.	1904	1905
*Paquin, Paul, Asheville Univ. Mo., 1887.	1899	1899
Pritchard, Arthur, Asheville Jeff. Med. Coll., 1905.	1905	1906
Purefoy, Geo. W., Asheville Jeff. Med. Coll., 1876.	1884	1904
Reagan, J. A., Weaverville Vanderbilt Univ., 1877.	....	1881
Reagan, W. L., Weaverville P. & S., Baltimore, 1897.	1881	1894
Reed, C. E., Asheville Jeff. Med. Coll., 1891-1895.	1902	1904
Reynolds, Carl V., Asheville Univ. N. Y., 1895.	1895	1896
Reynolds, T. F., Leicester N. C. Med. Coll., 1904.	1904	1905
Reynolds, J. H., Asheville Louisville Med. Coll., 1903.	1903	1903
Von Ruck, Karl, Asheville Univ. Mich., 1879.	....	1891
Von Ruck, S. H., Asheville Bellevue Med. Coll., 1899.	1899	1902
*Sawyer, James, Asheville Bellevue Med. Coll., 1897.	1897	1899
Sevier, Dan. E., Asheville Jeff. Med. Coll., 1895.	1895	1899
Sevier, Jos. T., Asheville Jeff. Med. Coll., 1895.	1895	1899

Members and Address.	*Licensed.*	*Joined State Society.*
Smith, Owen, Asheville Jeff. Med. Coll., 1905.	1905	1906
*Stevens, M. L., Asheville Balto. Med. Coll., 1891.	1892	1893
Tennent, Gaillard S., Asheville N. C. Med. Coll., 1894.	1894	1898
*Weaver, H. Bascom, Asheville Wash. Univ. Med., 1872.	1881	1881
*Whittington, W. P., Asheville P. & S., Balto., 1882.	1882	1882
Williams, Jno. Hey, Asheville Univ. Iowa, 1862.	1881	1881
Zimmermann, C. St. V., Asheville Nat. Univ., Wash., D. C., 1895.	1903	1904

BURKE COUNTY SOCIETY.

*President, J. L. Laxton.....Morganton.
Secretary, Jas. K. Hall.....Morganton.

Anderson, Paul V., Morganton Univ. of Va., 1904.	1904	1906
*Anderson, Jas. R., Morganton Tulane Univ., 1882.	1885	1904
*Hall, James K., Morganton Jeff. Med. Coll., 1904.	1906	1906
Henneesee, E. A., Glen Alpine U. S. Grant Univ., 1900.	1902	1904
Laxton, Jos. L., Morganton Wash. Univ., Md., 1868.	....	1891
McCampbell, John, Morganton Balto. Med. Coll., 1894.	1895	1899
*Murphy, P. L., Morganton Univ. Va., 1870; Univ. Md., 1871.	1873	1873
Phifer, Ed. W., Morganton N. C. Med. Coll., 1902.	1902	1904
Riddle, Jos. B., Bridgewater Vanderbilt Univ., 1898.	1904	1905
*Taylor, Isaac M., Morganton P. & S., N. Y., 1882.	1883	1883
Thompson, Hugh R., Morganton Univ. Coll. Med., Va., 1904.	1904	1904
Warlick, E. S., Morganton Univ. Tenn., 1881.	....	1904

CABARRUS COUNTY SOCIETY.

President, W. H. Lilly.....Concord.
*Secretary, Francis O. Rogers.....Concord.

Members and Address.	*Licensed.*	*Joined State Society.*
*Archey, L. M., Concord P. & S., Balto., 1885.	1885	1888
Barrier, P. A., Mount Pleasant Long Island Med. Coll., 1861.	1861	1861
*Black, J. C., Harrisburg, R. F. D Univ. Md., 1886.	1886	1891
*Burleyson, L. N., Concord Univ. Md., 1891.	1891	1904
*Caldwell, D. G., Concord Univ. Md., 1885.	1885	1885
*Caldwell, M. M., Concord Jeff. Med. Coll., 1901.	1906	1906
*Flow, J. W., Glass N. C. Med. Coll., 1898.	1903	1904
*Foil, M. A., Mt. Pleasant Jeff. Med. Coll., 1891.	1891	1905
*Gouger, G. J., Concord Univ. Md., two courses.	1891	1899
*Grier, S. A., Harrisburg	....	1904
*Jerome, J. R., Georgeville Univ. Md., 1890.	1890	1904
King, R. M., Concord	....	....
Lafferty, J. S., Concord Univ. Md., 1881.	....	1890
Lilly, W. H., Concord Univ. N. Y., 1860.	1860	1874
*Pemberton, W. D., Concord Univ. Md., 1887.	1887	1887
Pharr, T. F., Concord Bellevue Med. Coll., 1875.	1881	1881
*Rogers, F. O., Concord Univ. Md., 1901.	1901	1901
*Smoot, J. E., Concord Balto. Med. Coll., 1891-1893.	1894	1902
Walker, J. O., Concord Vanderbilt Univ., 1888.	1888	1904
*Young, Robert S., Concord Univ. N. Y., 1881.	1882	1882

CALDWELL COUNTY SOCIETY.

*President, J. B. Wright.....Granite Falls.
*Secretary, W. P. Ivey.....Lenoir.

Carter, G. H., Blackstone Univ. N. Y., 1877.	....	1904
*Corpening, O. J., Lenoir Univ. Coll. Med., Va., 1906.	1906	1906

Members and Address.	*Licensed.*	*Joined State Society.*
Flowers, B. G., Granite Falls, R. F. D. Non-Grad.; practice prior to 1885.	....	1904
*Flowers, G. E., Granite Falls. Ico. So. Med. Coll., Ga. Practice prior to 1885.	....	1904
*Ivey, W. P., Lenoir. Univ. Md., 1885.	1885	1891
Jones, A. D., Granite Falls. Louisville Med. Coll., 1876.	....	1904
*Kent, A. A., Lenoir. Jeff. Med. Coll., 1885.	1885	1894
Mattocks, C. J., Lenoir.	....	1904
McNairy, C. B., Lenoir. P. & S., Balto., 1893.	1893	1905
*White, W. M., Collettsville. P. & S., Atlanta, 1899.	1899	1904
Wilson, C. L., Lenoir. U. S. Grant Univ., 1903.	1903	1905
*Wright, J. B., Granite Falls. Univ. Coll. Med., Va., 1899.	1899	1899

CARTERET COUNTY SOCIETY.

President, F. M. Clarke.....Beaufort.
Secretary, D. S. George.....Marshallberg.

Adams, L. C., Atlantic. N. C. Med. Coll., 1903.	1903	1904
Boomer, K. P. B., Morehead City. Med. Coll., Va., 1905.	1905	1906
Chapin, A. B., Beaufort. Univ. Philadelphia, Pa., 1868.	....	1904
Clarke, F. M., Beaufort. P. & S., Balto., 1893.	1894	1904
Davis, Geo., Beaufort. Ky. School Med., 1896.	....	1904
Duncan, C. L., Beaufort. Univ. Md., 1902.	1902	1904
George, D. S., Marshallberg. N. C. Med. Coll., 1903.	1903	1903
Headen, W. E., Morehead City. Univ. Md., 1891.	1890	1891
Mason, C. N., Harlow. P. & S., Balto., 1882.	....	1904
Paul, Wm. T., Stacey. Univ. Md., 1869.	....	1904

CASWELL COUNTY SOCIETY.

*President, M. H. McBryde.....Milton.
Secretary, S. A. Malloy.....Yanceyville.

Members and Address.	*Licensed.*	*Joined State Society.*
*Badgett, J. F., Blackwell..... P. & S., Balto., 1881.	....	1904
*Love, B. E., Ridgeville..... Univ. Md., 1904.	1904	1905
*Malloy, S. A., Yanceyville..... Ky. School Med., 1897.	1898	1903
*McBride, M. H., Milton..... Univ. Coll. Med., Va., 1901.	1901	1904
*Norman, Geo. W., Thompsonville..... Balto. Med. Coll., 1896.	1896	1904
Swann, J. F., Semora..... Coll. P. & S., Balto., 1896.	1896	1906

CATAWBA COUNTY SOCIETY.

*President, Geo. H. West.....Newton.
*Secretary, J. H. Shuford.....Hickory.

Abernethy, H. L., Hickory..... Louisville Med. Coll., 1886.	1887	1904
Abernethy, W. L., Hickory..... Ky. School Med., 1877.	1879	1904
Baker, R. B., Hickory..... Univ. Md., 1852.	....	1904
*Campbell, Jas. R., Newton..... Wash. Univ., Md., 1871.	....	1898
*Childs, J. A., Hickory..... Med. Coll. S. C., 1898.	1903	1903
*Everhart, W. H., Newton..... Univ. Md., 1903.	1904	1904
Foard, Fred. F., Jugtown..... Louisville Med. Coll., 1886.	1886	1904
Herman, F. L., Conover..... Louisville Med. Coll., 1891.	1891	1904
Johnson, J. T., Hickory..... Univ. Pa., 1861.	....	1904
Little, Q. M., Catawba..... Univ. Md., 1871.	....	1904
Long, Fred. Y., Catawba..... N. C. Med. Coll., 1899.	1898	1904
*Long, T. W., Newton..... Univ. N. Y., 1885.	....	1904
Menzies, H. C., Hickory..... N. C. Med. Coll., 1894.	1894	1894

Members and Address.	*Licensed.*	*Joined State Society.*
Moser, D. M., Claremont N. C. Med. Coll., 1898.	1896	1904
*Shuford, J. H., Hickory Univ. Mich., 1901.	1902	1902
Skinner, L. C., Catawba N. C. Med. Coll., 1902.	1902	1902
*West, Geo. H., Newton Univ. N. Y., 1872.	1880	1895
*Whitesides, B. F., Hickory Univ. Med., 1877.	1881	1881
*Wilson, W. E., Sherrel's Ford Louisville Med. Coll., 1886.	1886	1904

CHATHAM COUNTY SOCIETY.

President, R. W. Palmer.....Gulf.
Secretary, H. T. Chapin.....Pittsboro.

Burns, William, Goldstone Col. P. & S., Balto., 1878.	....	1905
Chapin, H. T., Pittsboro Louisv. Med. Coll., 1886.	1886	1886
*Edwards, J. D., Siler City Louisv. Med. Coll., 1887.	....	1894
Kirkman, T. A., Lindhurst	....	1905
Palmer, R. W., Gulf Louisv. Med. Coll., 1890.	1891	1891
*Taylor, J. N., Pittsboro Med. Coll., Va., 1901.	1902	1902

CHEROKEE COUNTY SOCIETY.

President, J. F. Abernathy.....Murphy.
*Secretary, S. C. Highway.....Murphy.

Abernathy, J. F., Murphy	1885	1904
*Casteel, L. R., Culbertson Vanderbilt Univ., 1893.	1906	1906
Graham, W. A., Murphy One course Vanderbilt Univ. Registered under oath.	....	1906
*Highway, S. C., Murphy Med. Coll. Ohio, 1885.	1904	1904
Orr, R. J., Andrews Louisville Med. Coll., 1885.	....	1904
Patton, W. O., Murphy	....	1904
Webb, B. G., Andrews Louisville Med. Coll., 1885.	1885	1904

CLEVELAND COUNTY SOCIETY.

*President, J. L. McKay.....King's Mountain.
*Secretary, L. V. Lee.....Lattimore.

Members and Address.	*Licensed.*	*Joined State Society.*
Aydolette, J. P., Earls..... Univ. Ky., 1901.	1903	1903
*Champion, C. O., Mooresboro..... Atlanta Med. Coll., 1887.	....	1898
*Ellis, R. C., Shelby..... Univ. Balto., 1886.	....	1901
Falls, B. F., Cleveland Mills..... Univ. Tenn., 1881.	....	1904
Gold, G. M., Lawndale..... Atlanta Med. Coll., 1892.	....	1904
Goode, W. A., Waco..... Atlanta Med. Coll., 1890.	....	1904
Gregg, W. T., Shelby, R. F. D.....	....	1904
*Houser, E. A., Fallston..... Univ. Balto., 1902.	1902	1904
*Houser, W. H., Cherryville..... N. C. Med. Coll., 1900.	1900	1904
Lattimore, E. B., Lawndale..... Bellevue Med. Coll., 1898.	1896	1904
*Lee, L. V., Lattimore..... Atlanta Med. Coll., 1894.	1897	1904
McBrayer, T. E., Shelby..... P. & S., Balto., 1879.	....	1904
*McKay, J. L., King's Mountain..... Univ. Phila., 1870.	....	1904
*Mitchell, W. F., Shelby..... Univ. Md., 1899.	1900	1904
*Morrison, Rufus R., Shelby..... N. C. Med. Coll., 1906.	1906	1906
*Oates, Geo., Grover..... Univ. Louisville, Ky., 1894.	1902	1904
*Palmer, B. H., Shelby..... Louisville Med. Coll., 1898.	1898	1904
*Peeler, C. N., Casor..... N. C. Med. Coll., 1906.	1906	1906
*Royster, S. S., Mooresboro..... Tenn. Med. Coll., 1890.	1896	1903
*Self, L. L., Cleveland Mills..... Univ. Coll. Med., Va., 1901.	1901	1904
Trent, W. J., Earls.....	....	1904
*Wood, J. W., Shelby, R. F. D.....	....	1904

COLUMBUS COUNTY SOCIETY.

President, S. M. Withers.....Chadbourn.
Secretary, W. F. Smith.....Chadbourn.

Members and Address.	*Licensed.*	*Joined State Society.*
*Boyce, Jno. M., Whiteville N. C. Med. Coll., 1903.	1906	1906
Blake, J. F. Chadbourn N. C. Med. Coll., 1905.	1905	1906
*Floyd, A. G., Cerro Gordo Univ. Md., 1885.	....	1904
Gore, D. N., Mount Tabor	....	1904
Hall, J. Clegg, Boardman Univ. Coll. Med., Va., 1899.	1899	1904
Johnson, Thos. C., Vineland Med. Coll., Va., 1903.	1903	1905
Jordan, D. B., Cronley Jeff. Med. Coll., 1885.	....	1904
Maxwell, H. B., Whiteville Univ. Md., 1902.	1902	1902
McGougan, J. M., Cerro Gordo Univ. Nash., Tenn.	....	1904
Smith, W. F., Chadbourn N. C. Med. Coll., 1904.	1904	1905
Thompson, N. A., Whiteville Non-Grad. N. C. Med. Col.	1895	1904
*Withers, S. M., Chadbourn N. C. Med. Coll., 1902.	1902	1902

CRAVEN COUNTY SOCIETY.

President, Chas. Duffy.....New Bern.
*Secretary, R. Du Val Jones.....New Bern.

Caton, Geo. A., New Bern Med. Coll. Va., 1898.	1898	1904
Duffy, Charles, New Bern Univ. N. Y., 1859.	....	1870
Duffy, Francis, New Bern Univ. Va., 1868.	1872	1872
Duffy, Leinster, New Bern P. & S., Balto., 1889.	1889	1906
Dugoid, J. W., New Bern Univ. Md., 1892.	1893	1904
Dugoid, J. A., New Bern N. C. Med. Coll., 1905.	1905	1906
Disosway, A. W., New Bern Univ. of Md., 1905.	1905	1906

Members and Address.	*Licensed.*	*Joined State Society.*
Hammond, A. F., Pollocksville, Jones County Univ. Coll. Med., Va., 1903.	1903	1905
Hughes, F. W., New Bern Univ. Pa., 1880.	1885	1904
*Jones, R. DuVal, New Bern Univ. Md., 1896.	1897	1904
Patrick, J. E., New Bern Univ. Coll. Med., Va., 1900.	1900	1900
*Patterson, J. T., New Bern Jeff. Med. Coll., 1906.	1906	1906
*Pollock, Raymond, Dover Jeff. Med. Coll., 1897.	1900	1900
*Primrose, R. S., New Bern Bellevue Med. Coll., 1889.	1890	1904
Rhein, J. F., New Bern Bellevue Med. Coll., 1894.	1893	1904
Ward, J. M., New Bern Bellevue, N. Y., 1889.	1890	1906

CUMBERLAND COUNTY SOCIETY.

President, K. G. Averitt.....Stedman.
Secretary, John C. Dye.....Fayetteville.

Averitt, K. G., Stedman Balto. Med. Coll., 1893.	1893	1902
Bullock, T. C., Autryville	....	1904
Graham, Geo. A., Raeford Univ. N. Y., 1876.	....	1904
Haigh, T. D., Fayetteville Univ. N. Y., 1851.	....	1874
Highsmith, J. F., Fayetteville Jeff. Med. Coll., 1889.	1889	1893
*Highsmith, Seavy, Hope Mills Univ. Med. Coll., Va., 1901.	1901	1902
MacRae, John D., Fayetteville Univ. Nashville, 1897.	1899	1899
*Marsh, J. H., Fayetteville Jeff. Med. Coll., 1889.	1889	1890
McGougan, J. V., Fayetteville Univ. Med. Coll., 1893.	1893	1904
McKethan, John A., Fayetteville N. C. Med. Coll., 1901.	1901	1904
*Rose, A. S., Fayetteville Univ. Coll. Med., Va., 1901.	1901	1904
Watson, Leon, Hope Mills N. C. Med. Coll., 1900.	1900	1904
Dye, Jno. C., Fayetteville N. C. Med. Coll., 1905.	1905	1906

CURRITUCK COUNTY SOCIETY.

President, Henry M. Shaw.....Shawsboro.
*Secretary, Stuart M. Mann. Moyock.....Moyock.

Members and Address.	*Licensed.*	*Joined State Society.*
Garrington, J. F., Conyock	....	....
Griggs, W. T., Poplar Branch Univ. Va., 1896.	1896	1901
*Mann, Stuart M., Moyock P. & S., Balto., 1895.	1895	1904
Newbern, J. M., Jarvisburg	....	....
Ritter, F. W., Moyock 1 Co. P. & S., Balto., 1885.	1885	1885
Shaw, Henry M., Shawsboro Wash. Univ., Md., 1871.	....	1904

DAVIDSON COUNTY SOCIETY.

*President, H. W. Dorsett .....Bethany.
*Secretary, D. J. Hill .....Lexington.

Anderson, Abel, Denton	....	1904
Beall, J. F., Linwood 1 co. Univ. N. Y., 1865.	1885	1887
*Bowers, Albert H., Thomasville Univ. Coll. Med., Va.	1906	1906
Bird, Joseph, Thomasville	....	1904
*Buchanan, E. J., Lexington Univ. Md., 1892.	1892	1900
Cathell, J. E., Linwood, R. F. D. Univ. Md., 1899.	1902	1902
*Clodfelter, Chas. M. P. & S., Balto., 1905.	1905	1906
*Dorsett, H. W., Bethany Jeff. Med. Coll.	1885	1885
Fitzgerald, J. Y., Jackson Hill Jeff. Med. Coll., 1889.	1889	1904
*Hill, D. J., Lexington P. & S., Balto., 1893.	1893	1894
*Hill, Joel, Lexington P. & S., Balto., 1880.	1885	1886
*Hill, W. L., Lexington, R. F. D. P. &. S., Balto., 1893.	1893	1904
*Julian, C. A., Thomasville Louisville Med. Coll., 1888.	1891	1893
*Mack, J. H., Thomasville Med. Coll. Va., 1898.	1898	1904
*Myers, J. A. Linwood, R. F. D. No. 2	....	1904

Members and Address.	*Licensed.*	*Joined State Society.*
*Peacock, J. W., Thomasville Tulane Univ., La., 1901.	1901	1905
*Vestal, W. J., Lexington P. & S., Balto., 1883.	....	1893
*Zimmerman, R. U., Lexington, R. F. D.	....	1904

DAVIE COUNTY SOCIETY.

*President, M. D. Kimbrough ..... Mocksville.
*Secretary, W. C. Martin ..... Mocksville.

Byerly, A. B., Cooleemee Univ. Coll. Med., Va., 1896.	1896	1904
*Kimbrough, M. D., Mocksville Univ. Pa., 1860.	....	1904
*Martin, W. C., Mocksville P. &. S., Balto., 1888.	1888	1904
*Rodwell, J. W., Mocksville P. & S., Balto., 1896.	1895	1896
*Watkins, T. T., Advance N. C. Med. Coll., 1896.	1896	1896

DUPLIN COUNTY SOCIETY.

President, John M. Faison ..... Faison.
*Secretary, B. R. Graham ..... Wallace.

Carroll, J. W., Wallace Univ. Md., 1903.	1903	1903
Faison, John M., Faison Univ. Va., 1885.	1885	1885
*Graham, B. R., Wallace Univ. Va., 1895.	1895	1899
Hussey, L., Warsaw Univ. Pa., 1853.	....	1904
Jones, A. J., Kenansville Wash. Univ. Md., 1868.	1880	1904
*Murphy, J. Gerald, Kenansville	....	1905
*Smith, O. F., Magnolia Univ. Coll. Med., 1899.	1899	1904
Williams, A. F., Kenansville Univ. Md., 1901.	1901	1904
Williams, J. M., Warsaw Univ. Md., 1902.	1902	1902
*Lane, Jno. L., Faison N. C. Med. Coll., 1906.	1906	1906

DURHAM COUNTY SOCIETY.

*President, J. M. Manning .....Durham.
*Secretary, Joseph Graham .....Durham.

Members and Address.	*Licensed.*	*Joined State Society.*
Adams, C. A., Durham ..... Coll. P. & S., Balto., 1892.	1892	1905
Boddie, N. P., Durham ..... P. & S., Balto., 1883.	1883	1883
*Carr, Jno. R., Durham ..... Jno. Hopkins, 1904.	1906	1906
Cheatham, Arch., Durham ..... Univ. Md., 1888.	1888	1888
Graham, W. A., Durham ..... Univ. Pa., 1899.	1901	1901
Graham, Joseph, Durham	....	....
*Hicks, C. S., Durham ..... Univ. Md., 1904.	1904	1904
Hicks, W. N., Durham ..... Med. Coll. Va., 1864.	....	1901
*Holloway, R. L., West Durham ..... Med. Coll. Va., 1893.	1893	1904
Holt, E. M., Willardsville ..... Univ. N. Y., 1856.	....	1904
Holt, W. P., Willardsville ..... Jeff. Med. Coll., 1895.	1895	1901
*Johnson, N. M., Durham ..... Wash. Univ. Md., 1876.	1879	1904
Jordan, A. C., East Durham ..... Coll. P. & S., Balto., 1881.	1885	1904
*Mann, T. A., Durham ..... Univ. Md., 1903.	1903	1903
*Manning, J. M., Durham ..... Bellevue Med. Coll., 1882.	1884	1891
Moore, R. A., Durham ..... Univ. Md., 1897.	1897	1893
Nichols, R. E., Gorman ..... Med. Coll. Va., 1890.	1890	1904
*O'Kelly, J. M., Durham ..... Ky. School Med., 1877.	....	1883
*Patterson, E. C., West Durham ..... Univ. Md., 1903.	1903	1903
*Ross, Geo. H., East Durham ..... Univ. Tenn., 1899.	1899	1904
Smith, J. A., Durham ..... Univ. N. Y., 1883.	1884	1905

Members and Address.	*Licensed.*	*Joined State Society.*
Teague, R. J., Durham Univ. Md., 1890.	1890	1898
Ward, M. P., Holloway	....	1904
*Wilson, H. F., Morrisville Univ. Ga., 1891.	1902	1904
Wilkerson, Chas. B., Durham Univ. N. C., 1906.	1906	1906

EDGECOMBE COUNTY SOCIETY.

President, J. J. Phillips ..... Tarboro.
Secretary, S. N. Harrell ..... Tarboro.

*Baker, J. M., Tarboro Univ. Md., 1879.	1879	1879
Carr, J. B., Old Sparta Univ. Md., 1885.	1885	1885
Harrell, S. N., Tarboro Univ. Md., 1897.	1897	1904
Killebrew, C. B., Rocky Mount Univ. Pa., 1870.	....	1904
Mercer, W. P., Elm City Univ. N. Y., 1879.	1879	1904
Brothers, J. E., Conetoe	....	....
*Quiller, E. M., Rocky Mount Univ. Md., 1904.	1906	1906
Savage, R. L., Conetoe Univ. Md., 1897.	1897	1904
Speight, R. H., Whitakers Univ. Md., 1870.	1875	1875
Staton, L. L., Tarboro Univ. N. Y., 1867.	1869	1900
Thigpen, W. J., Tarboro Jeff. Med. Coll., 1900.	1901	1901

FORSYTH COUNTY SOCIETY.

*President, H. T. Bahnson ..... Winston.
*Secretary, R. D. Jewett ..... Winston.

Ashworth, W. C., Kernersville Coll. P. & S., Balto., 1892.	1892	1904
*Bahnson, H. T., Winston Univ. Pa., 1867.	1869	1869
*Bynum, John, Winston Univ. N. Y., 1892.	1892	1896
*Bynum, Wade H., Winston Univ. Coll. Med., Va., 1900.	1900	1900

Members and Address.	*Licensed.*	*Joined State Society.*
*Copple, T. M., Winston Univ. Md., 1900.	1899	1905
*Dalton, D. N., Winston Univ. N. Y., 1881.	1885	1886
*Dalton, W. N., Tobaccoville	....	....
Davis, A. P., Winston Ky. School Med., 1894.	1896	1904
Davis, J. W., Vienne Med. Coll. Va., 1903.	1903	1905
Fearrington, J. P., Winston Univ. Md., 1887.	1887	1904
Flynt, S. S., Rural Hall Coll. P. & S., Balto., 1889.	1890	1906
*Haines, J. L., Winston Univ. Md., 1902.	1902	1902
*Jewett, R. D., Winston Univ. Va., 1888.	1890	1890
*Kapp, H. H., Winston Jeff. Med. Coll., 1901.	1901	1904
*Linville, A. Y., Winston Univ. N. Y., 1889.	1889	1896
*Lockett, E. A., Winston Univ. Pa., 1902.	1904	1904
*Lott, H. S., Winston Univ. Ga., 1884.	1888	1888
*Pfohl, S. F., Winston Univ. Pa., 1894.	1898	1898
*Rierson, Robt. L., Winston. Univ. N. Y., 1887.	1898	1898
Shaffner, J. F., Winston Jeff. Med. Coll., 1860.	....	1867
Shaffner, J. F. Jr., Winston Univ. Pa., 1899.	1900	1903
*Spainhour, E. H., Winston Balto. Med. Coll., 1898.	1898	1898
*Spencer, W. O., Winston Jeff. Med. Coll., 1891.	1891	1894
*Strickland, E. F., Bethania Univ. N. Y., 1887.	1887	1903
Summers, C. L., Winston Univ. Md., 1887.	1891	1896
*Williams, J. D., Lewisville Vanderbilt Univ., 1898.	1898	1898
*Wright, J. Thos., Winston P. & S., Balto., 1892.	1892	1904

FRANKLIN COUNTY SOCIETY.

President, J. E. Malone ..... Louisburg.
*Secretary, S. P. Burt ..... Louisburg.

Members and Address.	*Licensed.*	*Joined State Society.*
*Burt, S. P., Louisburg P. & S., Balto., 1896.	1896	1904
Clark, K. M., Kittrell, R. F. D.	....	1905
Floyd, R. P., Louisburg, R. F. D. Med. Coll., S. C.	....	....
Harris, J. H., Franklinton Bellevue Med. Coll., 1886.	1886	1904
Hatch, P. R., Youngsville University Louisville, 1880.	....	1904
Henderson, R. B., Franklinton Univ. Md., 1887.	1887	1904
Malone, J. E., Louisburg Bellevue Med. Coll., 1875.	....	1904
Mann, J. J., Louisburg Non-graduate Balto. Med. Coll.	1886	1904
*Newell, Hodge A., Maplesville P. & S., Balto., 1906.	1906	1906
Riddick, I. G., Youngsville Bellevue Med. Coll., 1886.	1886	1904
Wheless, J. R., Centreville P. & S., Balto., 1891.	1891	1904
Winston, A. R., Franklinton Bellevue Med. Coll., 1899.	1899	1900
*Yarborough, R. F., Louisburg Columbian Univ., D. C., 1898.	1899	1899

GASTON COUNTY SOCIETY.

President, J. M. Sloan ..... Gastonia.
Secretary, H. F. Glenn ..... Gastonia.

Adams, C. E., Gastonia Univ. Md., 1878.	1885	1904
*Anders, McT. G., Gastonia Md. Med. Coll., 1901.	1902	1902
*Boyette, E. C., Mount Holly Balto. Med. Coll., 1893.	1898	1898
Bunting, R. C., Gastonia Univ. Md., 1898.	1897	1904
Davis, W. W., Belmont Ky. School Med., 1875.	....	1904
*Eddleman, H. M., Gastonia Ky. School Med., 1886.	....	1904
Garren, R. H., Bessemer	....	....

Members and Address.	*Licensed.*	*Joined State Society.*
*Garrison, D. A., Bessemer City Louisville Med. Coll., 1896.	1896	1899
Glenn, H. F., Gastonia P. & S., Atlanta, 1900.	1900	1904
*Glenn, L. N., McAdensville Univ. Md., 1897.	1897	1904
Hay, W. S., Bessemer City Univ. Ga., 1890.	1895	1904
*Hunter, B. R., King's Mountain Louisville Med. Coll., 1896.	1897	1904
*Hunter, M. C., Stanley P. & S., Balto., 1882.	1882	1904
*Jenkins, J. H., Dallas Ky. School. Med., 1888.	1888	1904
*Mathewson, J. P., Taylorsville N. C. Med. Coll., 1902.	1902	1902
McLain, Chas. E., Gastonia N. C. Med. Coll., 1903.	1904	1905
Patrick, G. R., Lowell Univ. Md., 1879.	....	1904
*Quickel, T. C., Stanley Tulane Univ., 1899.	1899	1904
Rowe, H. E., Bessemer City N. C. Med. Coll., 1905.	1905	1906
*Reid, R. M., Gastonia Univ. N. Y., 1890.	1890	1903
*Robinson, Frank, Lowell Louisville Med. Coll., 1878.	1881	1904
Stewart, Jas. J., Mt. Holly N. C. Med. Coll., 1904.	1904	1906
Stovall, ——, High Shoals	....	1906
*Sloan, J. M., Gastonia Louisville Med. Coll., 1891.	1891	1904
*Wilkins, S. A., Dallas Univ. Ky., 1902.	1903	1903
*Wilson, F. G., Gastonia Univ. Md., 1896.	1896	1899

GATES COUNTY SOCIETY.

President, Geo. D. Williams ..... Gatesville.
*Secretary, George C. Brooks ..... Sunbury.

*Brooks, G. C., Sunbury P. & S., Balto., 1884.	....	1904
Corbell, E. F., Sunbury Univ. Md., 1886.	1893	1900

Members and Address.	*Licensed.*	*Joined State Society.*
Lee, W. O. P., Reynoldson P. & S., Balto., 1874.	....	1904
Williams, Geo. D., Gatesville P. & S., Balto., 1897.	1897	1904

GRAHAM COUNTY SOCIETY.

President, M. F. Maxwell ..... Robbinsville.
Secretary, G. F. Brock ..... Brock.

Brock, G. F., Brock Registered on oath.	....	1904
Howell, S. F., Robbinsville Registered on oath.	....	1904
Hooper, L. D., Robbinsville, R. F. D. Registered on oath.	....	1904
Maxwell, M. F., Robbinsville Southern Med. Coll., 1885.	....	1904

GRANVILLE COUNTY SOCIETY.

*President, S. D. Booth ..... Oxford.
*Secretary, Ben. K. Hays ..... Oxford.

*Booth, S. D., Oxford Med. Coll., Va.	1885	1885
*Booth, T. L., Oxford Med. Coll. S. C., 1882.	....	1890
Cannaday, S. H., Oxford Univ. Va., 1887.	....	1904
*Hays, Ben. K., Oxford Univ. Coll. Med., Va., 1894.	1894	1896
Hardee, P. R., Stem Coll. P. & S., Balto., 1885.	1885	1906
*Holloway, O. W., Northside Univ. Coll. Med., Va., 1901.	1901	1906
Meadows, E. B., Oxford, R. F. D. No. 1 Univ. Coll. Med., Va., 1901.	1901	1901
Morris, J. A., Oxford, R. F. D. Vanderbilt Univ., 1893.	1893	1899
Sanderford, J. F., Creedmore P. & S., Balto., 1890.	1890	1891
*Sikes, G. T., Grissom Univ. Md., 1884.	1884	1884
Taylor, W. L., Stovall Univ. Va., 1900.	1901	1905
Williams, J. B., Oxford Univ. Md., 1868.	....	1905

GREENE COUNTY SOCIETY.

President, Albert West ..... Speight's Bridge, R. F. D.
*Secretary, G. C. Edwards ..... Hookerton.

Members and Address.	*Licensed.*	*Joined State Society.*
*Edwards, G. C., Hookerton ..... Bellevue Med. Coll., 1883.	1883	1883
*Harper, James H., Snow Hill ..... Jeff. Med. Coll., 1906.	1906	1906
Murphy, W. B., Jr., Snow Hill ..... Univ. Coll. Med., Va., 1903.	1903	1905
Robertson, W. F., Hookerton ..... N. C. Med. Coll., 1900.	1903	1906
West, Albert, Speight's Bridge, R. F. D.	....	1904
*Whittington, W. W., Snow Hill ..... Louisville Med. Coll., 1895.	1895	1897

GUILFORD COUNTY SOCIETY.

*President, D. A. Stanton ..... High Point.
*Secretary, Wm. J. Richardson ..... Greensboro.

*Angle, J. B., Greensboro	....	1905
*Armfield, D. A., Jamestown ..... Jeff. Med. Coll., 1861.	....	1904
*Banner, C. W., Greensboro ..... Univ. Md., 1899.	1899	1901
*Battle, J. T. J., Greensboro ..... P. & S., Balto., 1884.	1884	1889
*Beall, W. P., Greensboro ..... Jeff. Med. Coll., 1879.	1879	1879
*Beall, Louis G., Greensboro ..... N. C. Med. Coll., 1906.	1906	1906
*Bowman, H. P., Gibsonville	....	....
Boyles, H. C., Greensboro ..... P. & S., Balto., 1903.	1903	1904
*Broadnax, J. G., Greensboro ..... Univ. Va., 1849.	....	1888
*Brooks, J. E., Greensboro ..... Univ. Coll. Med., Va., 1897.	1897	1904
Brooks, Z. T., Greensboro	....	....
*Ector, D. G., Guilford College	....	....
*Burrus, John T., High Point ..... N. C. Med. Coll., 1898.	1897	1898
*Burton, J. W., High Point ..... Wash. Univ., Md., 1872.	....	1904
Davis, W. C., Summerfield ..... Univ. Balto., 1896.	....	1904

Members and Address.	*Licensed.*	*Joined State Society.*
*Dodson, H. H., Greensboro Med. Coll., Va., 1882.	1885	1886
Flagg, P. W., Greensboro Washington Univ., 1902.	1905	1906
Farrar, M. R., Greensboro Univ. N. C., 1905.	1905	1906
Fortune, A. F., Greensboro Univ. Coll. Med., 1900.	1900	1904
*Fox, M. F., Guilford College P. & S., Balto., 1881.	1885	1885
*Gilmer, C. S., Greensboro Univ. N. Y., 1891.	1891	1894
*Gordon, J. R., Jamestown Univ. N. Y., 1891.	1891	1894
*Gove, Anna M., Greensboro Woman's Med. Coll., N. Y., 1891.	1894	1905
Gray, Claiborn, Pleasant Garden	....	1904
*Grimsley, J. E., Greensboro Univ. Va., 1883.	1883	1884
Glasscock, Joy Harris (female), Greensboro Woman's Med. Coll., Balto., 1896.	1896	1898
*Harrison, Edmund, Greensboro Univ. Coll. Med., Va., 1896.	1900	1900
*Hilton, J. J., Stokesdale Univ. Md., 1886.	....	1904
*Hughes, George R., Greensboro Univ. N. Y., 1888.	1888	1894
*Holt, W. T., McLeansville	....	....
*James, W. M., High Point Univ. Md., 1903.	1903	1905
Justin, J. T., High Point N. C. Med. Coll. 1904.	1904	1906
Jones, J. W., Brown's Summit Missouri Med. Coll., 1875.	....	1904
*Jordan, G. E., Gibsonville P. & S., Balto., 1891.	1891	1904
Kernodle, G. W., Greensboro P. & S., Balto., 1886.	....	1905
*Knight, W. P., Greensboro Balto. Med. Coll., 1898.	1898	1898
*Ledbetter, A. E., Greensboro Univ. Md., 1888.	1888	1904
*Little, Thos. R., Greensboro Univ. Pa., 1900.	1903	1903
*Long, John W., Greensboro Vanderbilt Univ., 1883.	1884	1884

Members and Address.	*Licensed.*	*Joined State Society.*
Logan, Jno. E., Greensboro Juffney Coll., ...	....	1905
McAnally, W. J., High Point Bal. Med. Coll., 1897.	1896	1899
Meadows, W. J., Greensboro Med. Coll. Ala., 1894.	1899	1904
*Michaux, E. R., Greensboro Univ. N. Y., 1889.	1889	1904
Miles, May S., Greensboro	....	1905
Moore, J. L., High Point P. & S., Balto., 1886.	1886	1901
*Paddison, J. R., Oak Ridge Univ. Md., 1902.	1902	1904
*Reitzel, J. R., High Point Univ. Tenn., 1892.	1895	1896
Reitzel, C. E., High Point Coll. P. & S., Ga., 1902.	1902	1902
*Reives, J. T., Greensboro Louisville Med. Coll., 1891.	1892	1904
*Richardson, W. J., Greensboro Jeff. Med. Coll., 1889.	1889	1904
*Roberson, Chas., Greensboro Long Island Med. Coll., 1897.	1897	1901
*Scott, C. L., Greensboro Univ. Md., 1897.	1899	1903
*Stamey, E. L., Greensboro Atlanta Med. Coll., 1895.	1895	1904
*Stanton, D. A., High Point Vanderbilt Univ., 1887.	1887	1891
*Swain, J. F., High Point	....	1905
*Thames, John, Greensboro Louisville Med. Coll., 1894.	1895	1895
Turner, J. A., High Point Louisville Med. Coll., 1886.	....	1891
*Turner, J. P., Greensboro Univ. Md., 1896.	1897	1904
*Vestal, W. L., High Point P. & S., Balto., 1883.	....	1905
Whittaker, A. L., High Point	....	....
*Wilson, A. R., Greensboro Jeff. Med. Coll., 1882.	1882	1882
*Williams, John Roy, Greensboro Univ. Mich., 1903.	1904	1904
*Williams, John A., Greensboro Univ. Va., 1898.	1898	1898

HALIFAX COUNTY SOCIETY.

President, John A. Collins ..... Enfield.
Secretary, A. S. Harrison ..... Enfield.

Members and Address.	*Licensed.*	*Joined State Society.*
Collins, John A., Enfield ..... Bellevue Med. Coll., 1869.	1880	1904
Ferguson, H. B., Halifax ..... Jeff. Med. Coll., 1882.	1882	1904
*Fenner, E. L., Halifax ..... Univ. Md., 1905.	1906	1906
Green, I. E., Weldon	1873	1904
Harrison, A. S., Enfield ..... Univ. Md., 1888.	1888	1904
Hoyt, A. C., Roanoke Rapids ..... Univ. Md., 1900.	1900	1900
Leggett, K., Hobgood ..... Ky. School Med., 1884.	1885	1885
*Pierce, S. B., Roanoke Rapids ..... Bellevue Med. Coll., 1897.	1897	1905
*Register, F. M., Tillery ..... Ky. School Med., 1893.	1891	1904
Zollicoffer, A. B., Weldon ..... Univ. Pa., 1875.	....	1904
Zollicoffer, D. B., Weldon ..... P. & S., Balto., 1886.	1886	1904

HARNETT COUNTY SOCIETY.

President, J. F. McKay ..... Buie's Creek.
*Secretary, Chas. Highsmith ..... Dunn.

Arnold, L. J., Lillington ..... N. C. Med Coll., 1905.	1905	1906
Denning, O. L., Dunn ..... Jeff. Med. Coll., 1889.	1889	1904
Harper, M. W., Dunn ..... Louisv. Med. Coll., 1886.	....	1886
*Halford, J. W., Chalybeate Springs	....	....
*Hicks, I. F., Dunn ..... N. C. Med. Coll., 1902.	1902	1904
Highsmith, Chas., Dunn ..... Balto. Med. Coll., 1898.	1898	1898
*Holt, W. P., Duke ..... Jeff. Med. Coll., 1895.	1895	1901
Hudson, W. L., Dunn ..... Ky. School Med., 1876.	1883	1894
*Lee, S. P. J., Dunn, R. F. D. ..... Md. Med. Coll., 1904.	1904	1905

Members and Address.	*Licensed.*	*Joined State Society.*
*McComb, C. J., Wade N. C. Med. Coll., 1905.	1905	1906
McKay, A. M., Summersville S. C. Med. Coll., 1858.	....	1905
McKay, Jno. A., Dunn, R. F. D. No. 2 S. C. Med. Coll., 1856.	....	1904
*McKay, J. F., Buie's Creek S. C. Med. Coll., 1884.	1885	1904
*McLean, J. W., Godwin N. C. Med. Coll., 1902.	1902	1902
McNeill, Wm. M., Dunn Univ. N. Y., 1858.	....	1904
Melvin, W. C., Linden Univ. Coll. Med., Va., 1900.	1900	1905
*Moore, F. T., Benson P. & S., Balto., 1885.	....	1904
Sexton, C. H., Dunn Univ. Md., 1890.	1890	1904
Smith, F. Linden S. C. Med. Coll., 1868.	....	1905

HAYWOOD COUNTY SOCIETY.

*President, J. R. McCracken ..... Waynesville.
*Secretary, J. Howell Way ..... Waynesville.

Abel, J. F., Waynesville Univ. Balto., 1892.	1893	1899
Allen, R. L., Waynesville Univ. Md., 1885.	1885	1899
*Davis, F. M., Clyde Vanderbilt Univ., 1894.	1894	1904
*McCracken, J. R., Waynesville N. C. Med. Coll., 1902.	1902	1903
*McFayden, H. L., Waynesville Univ. N. Y., 1876.	....	1904
*Kirkpatrick, Wm. L., Pacolet, S. C. Vanderbilt Univ., 1894.	1894	1895
*Mease, J. H., Canton Vanderbilt Univ., 1893.	1893	1894
Medford, S. B., Clyde Univ. Nash., Tenn., 1896.	1896	1904
Greenwood, B. H., Waynesville Balto. Med. Coll., 1893.	1894	1906
*Moore, J. E., Canton Tenn. Med. Coll., 1899.	1898	1899
Rogers, McLean, Geary, Okla. P. & S., Atlanta, 1902.	1902	1903

Members and Address.	*Licensed.*	*Joined State Society.*
Stringfield, Samuel L., Waynesville Jeff. Med. Coll., 1905.	1905	1906
*Stringfield, Thos., Waynesville Vanderbilt Univ., 1898.	1898	1899
Walker, R. L., Clyde Ky. School Med., 1889.	....	1904
*Way, J. Howell, Waynesville Vanderbilt Univ., 1886.	1885	1887
Willis, A. P., Canton Univ. N. C., 1905.	1905	1906
*Wilson, J. E., Sonoma 1 co. Louisville Med. Coll., 1876.	....	1903

HENDERSON-POLK COUNTY SOCIETY.

President, T. A. Allen ..... Hendersonville.
*Secretary, J. G. Waldrop ..... Hendersonville.

Allen, T. A., Hendersonville S. C. Med Coll.	....	1904
Dixon, G. E., Hendersonville P. & S., St. Louis, 1903.	1903	1903
Drafts, A. B., Hendersonville Univ. Va., 1896.	1899	1903
Edgerton, J. L., Hendersonville Univ. Md., 1877.	....	1890
Few, C., Hendersonville Univ. Md., 1875.	....	1904
Garrigues, H. J., Tryon Univ. Copenhagen, Denmark, 1869.	1905	1906
Goelet, E. B., Saluda Tulane Univ., 1888.	1888	1888
*Grady, Earle, Tryon Univ. Md., 1894.	1895	1899
Greenwood, S. E., Mills River Tenn. Med. Coll., 1902.	1903	1904
*Guerard, Arthur R., Flat Rock Bellevue Med. Coll., 1895.	1902	1905
*Kirk, Wm. R., Hendersonville Central Univ. of Ky., 1890.	1901	1903
*Russell, Lloyd P., Fletchers Univ. Nashville, 1901.	1902	1903
Salley, E. McIver, Tryon Univ. Md., 1905.	1905	1906
*Waldrop, J. G., Hendersonville P. & S., Balto., 1876.	....	1891

HERTFORD COUNTY SOCIETY.

President, W. G. Freeman ..... Murfreesboro.
*Secretary, W. B. Pollard ..... Winton.

Members and Address.	*Licensed.*	*Joined State Society.*
Burbage, T. J., Como ..... Memphis Hosp. Coll. Med., 1882.	....	1905
Freeman, W. G., Murfreesboro ..... Univ. Pa., 1861.	....	1904
Gary, R. H., Murfreesboro ..... P. & S., Balto., 1881.	....	1904
Green, A. W., Ahoskie ..... Univ. Coll. Med., Va., 1904.	1904	1905
Griffin, C. F., Winton ..... P. & S., Balto., 1893.	1893	1900
Mitchell, J. H., Ahoskie ..... P. & S., Balto., 1879.	....	1904
*Parker, J. Rainey, Union ..... Balto. Med. Coll., 1898.	1898	1898
Pollard, W. B., Winton ..... Univ. Pa., 1899.	1903	1905
Ward, J. E., Harrellsville ..... Univ. Md., 1904.	1904	1905

IREDELL-ALEXANDER COUNTY SOCIETY.

President, E. E. Klutz ..... Troutman.
*Secretary, J. E. McLaughlin ..... Statesville.

*Adams, M. R., Statesville ..... Univ. Md., 1878.	1884	1884
*Anderson, Thos. E., Statesville ..... Jeff. Med. Coll., 1878.	....	....
Bell, A. E., Mooresville ..... Univ. Md., 1899.	1897	1904
Campbell, Archibald, Statesville ..... Univ. Md., 1891.	1891	1905
*Cloninger, L. V., Elmwood ..... N. C. Med. Coll., 1901.	1901	1904
Hall, E. A., Dunlap	....	1904
Harrill, L., Statesville	....	1900
Houck, Albert, Statesville ..... P. & S., Balto., 1884.	1891	1893
*Jurney, P. C., Turnersburg ..... Med. Coll. Va., 1901.	1901	1904
King, J. E., Statesville, R. F. D. ..... Jeff. Med. Coll., 1868.	....	1904
*Klutz, E. E., Troutman ..... Med. Coll. Va., 1884.	....	1896

Members and Address.	*Licensed.*	*Joined State Society.*
*Long, H. F., Statesville Univ. Md., 1892.	1892	1899
*McLaughlin, J. E., Statesville Univ. Md., 1886.	1886	1896
Moore, J. T., Mooresville, R. F. D. N. C. Med. Coll., 1899.	1898	1905
Moore, N. G., Mooresville Jeff. Med. Coll., 1891.	1891	1904
Nicholson, W. G., Harmony Louisville Med. Coll., 1881.	....	1904
Sharpe, F. L., Statesville Univ. Coll. Med., 1904.	1904	1905
Sisk, J. A., Harmony N. C. Med. Coll., 1902.	1902	1904
*Stevenson, S. W., Mooresville Wash. Univ., Md., 1873.	1879	1904
*Young, James, Mooresville N. C. Med. Coll., 1902.	1896	1904
*Yount, E. M., Statesville N. C. Med. Coll., 1902.	1902	1902

JACKSON COUNTY SOCIETY.

President, A. A. Nichols ..... Webster.
Secretary, D. D. Hooper ..... Sylva.

Burgin, H. F., Webster Univ. Md., 1874.	1879	1904
*Candler, Chas. Z., Dillsboro P. & S., Atlanta, 1901.	1901	1904
Candler, J. M., Dillsboro	....	1904
*Hooper, D. D., Tuckaseigee Univ. Coll. Med., Va., 1905.	1905	1905
Nichols, A. A., Painter Univ. Nashville, 1898.	1904	1904
Self, Wm., Webster	....	1904

JOHNSTON COUNTY SOCIETY.

President, J. B. Person ..... Selma.
Secretary, Thel. Hooks ..... Smithfield.

*Grady, J. C., Kenley P. & S., Balto., 1886.	....	1904
Griffin, J. A., Clayton	....	1905
Hooks, Thel., Smithfield Med. Coll. Va., 1901.	1901	1903

Members and Address.	*Licensed.*	*Joined State Society.*
Johnson, Floyd, Benson ..... Memphis Hosp. Coll. Med., 1903.	1903	1904
Justice, Jas. F., Kenly	1904	1905
Lassiter, D. B., Benson ..... P. & S., Balto., 1884.	....	1904
Munns, L. A., Smithfield ..... P. & S., Balto., 1885.	1888	1904
Moore, F. T., Benson	....	1904
Noble, R. J., Selma ..... Ky. School Med., 1875.	1878	1878
Parker, G. E., Benson ..... P. & S., Balto., 1886.	....	1904
Person, J. B., Selma ..... Med. Coll. Va., 1897.	1897	1900
*Robinson, G. J., Smithfield ..... Jeff. Med. Coll., 1882.	1884	1884
*Rose, A. H., Smithfield ..... Jeff. Med. Coll., 1906.	1906	1906
Stanly, Jno. H., Fair Oaks ..... N. C. Med. Coll., 1904.	1904	1906
*Vick, Geo. D., Selma ..... Jeff. Med. Coll., 1906.	1906	1906
*Wharton, L. D., Smithfield ..... Tulane Univ., 1893.	1893	1894
*Young, J. J., Clayton ..... P. & S., Balto., 1897.	1896	1904

LENOIR COUNTY SOCIETY.

President, J. M. Hodges .....LaGrange.
*Secretary, W. F. Hargrove .....Kinston.

Green, J. C., LaGrange ..... Med. Coll. Va., 1900.	1900	1904
*Hargrove, W. F., Kinston ..... Univ. Md., 1901.	1901	1901
Hodges, J. M., LaGrange ..... Bellevue Med. Coll., 1883.	1883	1904
*Monk, H. G., Trenton ..... Med. Coll. Va., 1896.	1896	1904
*Parrott, Jas. M., Kinston ..... Tulane Univ., 1895.	1895	1896
*Parrott, A. DeK., Kinston ..... Univ. Coll. Med., Va., 1906.	1906	1906
Parrott, W. T., Kinston ..... Tulane Univ., 1899.	1899	1901

Members and Address.	*Licensed.*	*Joined State Society.*
Pridgen, C. L., Kinston Jeff. Med. Coll., 1901.	1901	1904
Smithwick, J. W. P., LaGrange Univ. Md., 1895.	1897	1898
Tull, Henry, Kinston Univ. Pa., 1876.	1876	1876
*Whittaker, R. A., Kinston P. & S., Balto., 1885.	1885	1885
Woodley, C. B., Kinston Bellevue Med. Coll., 1886.	1886	1904
Wootten, R. W., Kinston Univ. Va., 1870.	....	1904

LINCOLN COUNTY SOCIETY.

*President, R. B. Killian .....Lincolnton, R. F. D.
*Secretary, L. A. Crowell .....Lincolnton.

*Abernethy, H. N., Denver Louisville Med. Coll., 1894.	1894	1898
Beam, J. L., Crouse Balto. Med. Coll., 1904.	1904	1905
*Crowell, L. A., Lincolnton Balto. Med. Coll., 1892.	1892	1898
*Hoover, Chas. H., Lincolnton, R. F. D. Balto. Med. Col., 1903.	1903	1904
*Killian, R. B., Lincolnton, R. F. D. Louisville Med. Coll., 1885.	1885	1904
Kiser, W. C., Reepsville Sou. Med. Coll., Ga., 1889.	....	1904
*Petrie, R. W., Lincolnton Univ. Md., 1903.	1903	1903
*Saine, John W., Lincolnton Louisville Med. Coll., 1891.	1891	1904
*Thompson, C. D., Lowesville Univ. Tenn., 1901.	1901	1904
Wise, J. S., Lincolnton Ky. School Med., 1890.	1899	1904

MACON-CLAY COUNTY SOCIETY.

President, S. H. Lyle .....Franklin.
Secretary, W. A. Rogers .....Franklin.

Browner, J. A., Aquone	....	1904
Lyle, S. H., Franklin Vanderbilt Univ., 1882.	1881	1904
Rogers, W. A., Franklin Univ. Nashville, 1898.	1898	1898

Members and Address.	*Licensed.*	*Joined State Society.*
*Siler, F. L., Franklin Univ. Nashville, 1897.	1895	1904
*Jones, Harry M. Univ. N. C., 1906.	1906	1906
*Sullivan, J. M., Hayesville	....	....
*Lapham, Mary E., Highlands Woman's Med. Coll., 1900.	1906	1906

MADISON COUNTY SOCIETY.

President, J. C. Tilson.....Marshall, R. F. D. No. 3.
*Secretary, W. F. Robinson.....Mars Hill.

Baird, J. H., Mars Hill	....	1904
Burnett, I. E., Big Laurel Tenn. Med. Coll.	....	1904
English, I. L., English	....	1904
Frisbee, J. T., Lynch	....	1904
McDruitte, A. J., Walmet	....	1906
*Roberts, Frank, Marshall Jeff. Med. Coll., 1892.	1892	1902
*Robinson, W. E., Mars Hill Vanderbilt Univ., 1896.	1903	1904
Reynolds, J., Joe	....	1904
Tilson, J. C., Marshall 1 co. P. & S., Balto., 1884-5.	1885	1904
Weaver, W. J., Marshall Jeff. Med. Coll., 1898.	1897	1903
*Woody, S. B., Spring Creek Vanderbilt Univ., 1892.	1898	1898

MARTIN COUNTY SOCIETY.

President, R. J. Nelson.....Robersonville.
*Secretary, W. E. Warren.....Williamston.

*Fleming, M. I., Hamilton Jeff. Med. Coll., 1904.	1906	1906
Hargrove, W. H., Robersonville Univ. Md., 1877.	1879	1879
*Knight, J. B. H., Williamston P. & S., Balto., 1885.	1885	1891
Long, B. L., Hamilton Univ. Md., 1880.	....	1904
Nelson, R. J., Robersonville Louisville Med. Coll., 1890.	1890	1893

Members and Address.	*Licensed.*	*Joined State Society.*
*Proctor, J. P., Williamston	1905	1905
Smithwick, J. E., Jamesville Univ. Md., 1897.	1897	1904
*Warren, W. E., Williamston Non-Grad. Univ. N. Y.	1893	1904
Saunders, J. H., Everetts Univ. Coll. Med., Va., 1905.	1905	1906
*Rhodes, J. S., Williamston Med. Coll. Va., 1906.	1906	1906
*York, Hugh B., Williamston : P. & S., Balto., 1906.	1906	1906

McDOWELL COUNTY SOCIETY.

President, B. A. Cheek.....Marion.
Secretary, G. S. Kirby.....Marion.

Ashworth, B. L., Marion P. & S., Balto., 1892.	1893	1895
Cheek, B. A., Marion Univ. Pa., 1860.	....	1904
Doster, J. L., Nealsville	....	1904
Garren, R. H., Old Fort Univ. Nashville, 1900.	1901	1904
Gilbert, W. W., Rocky Pass	....	1904
Justice, M. L., Old Fort Non-Grad. N. C. Med. Coll.	1897	1904
Kirby, Guy S., Marion Univ. Coll. Med., Va., 1897.	1897	1903
*Morphew, M. F., Marion P. & S., Balto., 1883.	....	1893
*Simmons, Jno. O., Dysartsville Grant Univ., 1904.	1906	1906

MECKLENBURG COUNTY SOCIETY.

*President, W. W. Pharr.....Newel.
*Secretary, Parks M. King.....Charlotte.

*Abernethy, J. S., Charlotte, R. F. D	....	1904
*Abernethy, Miles B., Charlotte N. C. Med. Coll., 1906.	1906	1906
*Alexander, Annie L., Charlotte Woman's Med. Coll., Pa., 1884.	1885	1885
*Alexander, J. R., Charlotte Univ. Md., 1894.	1894	1898
*Alexander, Henry Q., Matthews Univ. Md., 1888.	1888	1904

Members and Address.	*Licensed.*	*Joined State Society.*
Austin, J. A., Charlotte..... Jeff. Med. Coll., 1887.	1887	1887
*Brevard, R. J., Charlotte..... Univ. N. Y., 1872.	....	1887
*Costner, T. F., Charlotte..... Jeff. Med. Coll., 1882.	....	1902
*Clark, Geo. T., Charlotte.....	....	....
*Craven, W. P., Charlotte, R. F. D.....	....	1904
*Crowell, A. J., Charlotte..... Univ. Md., 1893.	1892	1894
*Crowell, S. M., Charlotte..... Univ. Md., 1895.	1895	1898
*De Armond, J. Mc., Mint Hill..... Univ. Md., 1886.	1886	1887
*Davidson, J. E. S., Huntersville.....	....	....
*McCoy, Thos. M., Huntersville..... N. C. Med. Coll., 1905.	1906	1906
*Matheson, J. P., Charlotte..... N. C. Med. Coll., 1902.	1902	1906
*Martin, Mary L., Davidson..... Woman's Med. Coll., Pa., 1906.	1906	1906
*Lafferty, Robt. H., Davidson..... N. C. Med. Coll., 1906.	1906	1906
*Faison, I. W., Charlotte..... Bellevue Med. Coll., 1878.	1878	1878
*Gibbon, Robt. L., Charlotte..... Jeff. Med. Coll., 1887.	1887	1890
*Graham, Joseph, Charlotte..... Jeff. Med. Coll., 1869.	....	1874
*Graham, W. A., Charlotte..... P. & S., N. Y., 1888.	1889	1890
*Gibbon, John, 322 S. 15th St., Philadelphia..... Jeff. Med. Coll., 1892.	1891	1893
*Hiatt, J. T., Charlotte..... P. & S., Ga., 1901.	1901	1904
*Hawley, F. O., Charlotte..... Univ. Edinburgh, Scot., 1868.	....	1904
*Henderson, S. M., Croft..... Univ. Md., 1894.	1894	1904
*Herron, A. M., Charlotte, R. F. D..... Med. Coll., S. C., 1882.	....	1904
Hovis, Leighton W., Chadwick..... N. C. Med. Coll., 1904.	1904	1906
*Hunter, Lester W., Sardis..... Bellevue Med. Coll., 1875.	1880	1880
*Irwin, John R., Charlotte..... Univ. Md., 1879.	1882	1882

Members and Address.	*Licensed.*	*Joined State Society.*
*King, Parks M., Charlotte Univ. and Bellevue, N. Y., 1902.	1902	1904
*Knox, John, Ranalburg	....	1904
Littlejohn, R. N., Charlotte Univ. Md., 1903.	1903	1904
*Leeper, D. H., Charlotte N. C. Med. Coll., 1906.	1906	1906
*Mason, R. E., Charlotte Univ. Ga., 1900.	1903	1903
*McLaughlin, C. S., Charlotte Univ., 1896.	1896	1903
*McManaway, C. G., Charlotte	....	....
*Meisenheimer, C. A., Charlotte Univ. N. Y., 1882.	1882	1882
*Montgomery, John C., Charlotte Univ. N. Y., 1891.	1891	1895
*Moore, B. S., Charlotte	1905	1905
*Munroe, H. S., Davidson N. C. Med. Coll., 1902.	1902	1904
*Munroe, J. P., Davidson Univ. Va., 1885.	1886	1890
*Nisbet, W. O., Charlotte Med. Coll., S. C., 1889.	1889	1899
*Nolle, Brodie C., Charlotte	1905	1905
*Pharr, W. W., Newells P. & S., Balto., 1881.	1885	1885
*Pressly, George W., Charlotte Jeff. Med. Coll., 1892.	1895	1896
*Register, E. C., Charlotte Univ. N. Y., 1885.	1885	1887
*Hunter, Wm. M., Charlotte Georgetown Univ., 1906.	1906	1906
*Keerans, L. C., Charlotte Univ. Med., 1902.	1902	1906
*Graham, Geo. W., Charlotte Univ. of N. Y., 1870.	1877	1877
*Newell, L. B., Charlotte Univ. of N. C., 1905.	1905	1906
*Stone, W. M., Davidson N. C. Med. Coll., 1906.	1906	1906
*Witherspoon, B. J., Charlotte S. C. Med. Coll., 1894.	....	1906
*Orr, N. A., Belmont Univ. Coll. Med., Va., 1904.	1904	1906

Members and Address.	*Licensed.*	*Joined State Society.*
*Stone, W. M., Davidson	....	....
Reid, W. R., Pineville	....	....
*Reid, Thos. N., Matthews Univ. N. Y., 1891.	1891	1904
*Russell, E. Reid, Charlotte Univ. Md., 1895.	1895	1898
*Stephenson, C. B., Charlotte Tulane Univ., La., 1891.	1898	1904
*Strong, C. M., Charlotte Univ. Md., 1888.	1889	1898
*Strong, W. M., Charlotte N. C. Med. Coll., 1904.	1904	1904
*Wakefield, W. H., Charlotte Hosp. Coll. Med., Ky., 1890.	1891	1893
*Walker, C. E., Charlotte Univ. Md., 1891.	1891	1894
*Whisnant, A. M., Charlotte P. & S., Balto., 1893.	1893	1894
*Winchester, F. M., Charlotte Jeff. Med. Coll., 1883.	1887	1904
*Witherbee, W. D., Charlotte McGill Univ., 1899.	1905	1905
*Wilder, H. M., Charlotte Univ. N. Y., 1872.	1874	1904
*Woodley, W. T., Charlotte Med. Coll., Va., 1893.	....	1904

MOORE COUNTY SOCIETY.

President, Robt. W. Palmer.....Gulf.
*Secretary, Gilbert McLeod.....Carthage.

Achorn, J. Warren, Boston, Mass Maine Med. Coll., 1887.	1899	1899
Blair, A. M., Southern Pines	....	....
Caveness, A. H., High Falls Univ. Balto., 1901.	1903	1905
*Ferguson, K. M., Southern Pines P. & S., Balto., 1882.	1883	1904
Gladmon, Edwin, Southern Pines Nat. Univ., Washington, D. C., 1890.	1899	1902
*Gilmore, W. D., Cameron Univ. N. C., 1903.	1903	1904
Hoyle, H. B., Jonesboro N. C. Med. Coll., 1896.	1896	1904
Johnson, Alice E., Southern Pines Woman's Med. Coll., Phila., 1905.	1905	1906

Members and Address.	*Licensed.*	*Joined State Society.*
Laster, P. D., Lockville	....	....
*McIver, Lynn, Sanford Univ. Ky., 1901.	1902	1903
*McDonald, A. A., Jackson Springs N. C. Med. Coll., 1905.	1906	1906
McLeod, A. H., Aberdeen Balto. Med. Coll., 1896.	1896	1904
*McLeod, Gilbert, Carthage Univ. Md., 1882.	1885	1904
Monroe, A. J., Jonesboro Univ. N. Y., 1858.	....	1904
*Monroe, J. P., Sanford P. & S., Balto., 1901.	1901	1903
Monroe, W. A., Sanford Univ. Md., 1886.	1886	1888
*Palmer, R. W., Gulf Louisville Med. Coll., 1890.	1891	1891
Sheppard, J. L., Sanford, R. F. D	....	....
*Shields, H. B., Carthage Atlanta Med. Coll., 1887.	1887	1904
Snipes, E. P., Jonesboro Vanderbilt Univ., 1890.	....	1890
*Street, M. E., Glendon P. & S., Balto., 1893.	1893	1902
Swett, W. P., Southern Pines Univ. Vermont, 1876.	....	1901
Wilcox, J. W., Carthage N. C. Med. Coll., 1900.	1900	1906
Watson, Leon, Broadway N. C. Med. Coll., 1900.	1900	1906

MONTGOMERY COUNTY SOCIETY.

*President, F. E. Asbury.....Asbury.
*Secretary, Chas. Daleginy .....Troy.

*Asbury, F. E., Asbury Med. Coll. S. C., 1876.	....	1896
Blair, M. P., Troy Med. Coll. Va., 1895.	1895	1904
*Bowman, H. E., Biscoe N. C. Med. Coll., 1904.	1904	1906
Daleginy, Chas., Troy	....	1906
Dowd, J. A., Biscoe N. C. Med. Coll., 1902.	....	1904

Members and Address.	*Licensed.*	*Joined State Society.*
Ingram, C. B., Mount Gilead Jeff. Med. Coll., 1886.	1886	1892
*Shamberger, J. B., Star Univ. Md., 1890.	1890	1892
Thompson, A. F., Troy Med. Coll. Indiana, 1895.	1895	1904

NASH COUNTY SOCIETY.

President, J. P. Battle.....Nashville.
Secretary, J. P. Whitehead.....Rocky Mount.

Battle, Jas. P., Nashville Univ. Md., 1888.	1889	1904
Brantley, C. H., Finch P. & S., Balto., 1887.	1894	1904
Brantley, Hassell, Spring Hope Univ. Md., 1888.	1888	1901
Covington, L. C., Rocky Mount Univ. Coll. Med., Va., 1901.	1902	1902
Dew, S. P., Spring Hope	....	....
Marriott, H. B., Battleboro Univ. Md., 1883.	1883	1904
Matthews, T. A., Castalia Univ. Md., 1891.	1891	1895
Miller, Robt. B., Rocky Mount Med. Coll. Va., 1898.	1900	1902
*Phillips, Jas. B., Jr., Selma Univ. Md., 1903.	1904	1904
Speight, R. H., Jr., Rocky Mount Univ. Med., 1901.	1901	1901
Strickland, J. T., Nashville Univ. Md., 1890.	1890	1904
Whitehead, J. P., Rocky Mount Univ. Md., 1899.	1899	1899
*Whitehead, W. H., Rocky Mount Univ. Md., 1870.	1875	1875
Whittaker, W. H., Hilliardston	....	1905

NEW HANOVER COUNTY SOCIETY.

President, P. J. Thomas.....Wilmington.
Secretary, J. B. Cranmer.....Wilmington.

Akerman, Joseph, Wilmington Jno. Hopkins Med. Coll., 1905.	1905	1906
Anders, W. K., Wilmington Univ. Phila., Pa., 1870.	1880	1904

Members and Address.	*Licensed.*	*Joined State Society.*
Bell, Charles D., Wilmington Univ. Md., 1883.	....	1904
Bellamy, W. J. H., Wilmington Univ. N. Y., 1868.	....	1870
Bellamy, R. H., Wilmington Jeff. Med. Coll., 1902.	1902	1902
Bauseman, C. H., Wilmington Jeff. Med. Coll., 1903.	1904	1905
Bullock, D. W., Wilmington Univ. Md., 1873.	1875	1875
Burbank, T. S., Wilmington Bellevue Med. Coll., 1886.	1880	1904
Collier, G. K., Sonyea, N. Y. P. & S., Balto., 1900.	1902	1902
Cranmer, J. B., Wilmington Univ. of N. C., 1905.	1905	1906
Galloway, W. C., Wilmington Wash. Univ. of Md., 1874.	1880	1880
*Green, Thos. M., Wilmington Univ. Md., 1901.	1901	1904
Hall, Wright, Wilmington Non-Grad. P. & S., Balto.	....	1904
Honnett, J. H., Wilmington P. & S., N. Y., 1900.	1901	1904
Harris, A. H., Wilmington Medico-Chi. Coll., Pa., 1893.	1892	1904
*Harper, Chas. T., Wilmington Univ. Md., 1894.	1893	1904
Koonce, S. E., Wilmington P. & S., Balto., 1896.	1896	1900
McDonald, A. D., Wilmington Wash. Univ. of Md., 1877.	1877	1879
Love, L. H., Wilmington P. & S., N. Y., 1898.	1899	1904
McMillan, W. D., Wilmington Univ. Md., 1868.	....	1904
*Russell, F. H., Wilmington Univ. Md., 1893.	1893	1895
Schonwald, Jno. T., Wilmington Long Island Med. Coll., 1879.	1880	1904
*Thomas, Geo. G., Wilmington Univ. Md., 1871.	1871	1871
Thomas, Pride J., Wilmington Univ. Md., 1902.	1902	1902
Wood, Ed. Jenner, Wilmington Univ. Pa., 1902.	1903	1903
Wessell, Jno. C., Wilmington Univ. Med., 1900.	1900	1900

NORTHAMPTON COUNTY SOCIETY.

President, A. J. Ellis.....Garysburg.
Secretary, R. P. Morehead.....Lasker.

Members and Address.	*Licensed.*	*Joined State Society.*
*Bolton, Mahlon, Rich Square..... Jeff. Med. Coll., 1885.	1885	1885
*Coppedge, N. P., Margaretsville..... N. C. Med. Coll., 1903.	1903	1903
*Carstarphen, Wm. T., Garysburg..... Jeff. Med. Coll., 1906.	1906	1906
Cook, J. H., Woodland.....	....	....
Ellis, A. J., Garysburg..... Univ. Pa., 1858.	....	1904
Joyner, R. W., Woodland.....	....	1904
Joyner, T. D., Severn.....	....	....
*Lewis, H. W., Jackson..... Univ. N. Y., 1877.	....	1887
Moorehead, R. P., Lasker..... P. & S., Balto., 1895.	1895	1900
Reed, D. H., Conway.....	....	....
Robinson, W. A., Garysburg..... Univ. Coll. Med., Va., 1900.	1903	1904
Stancell, R. H., Margarettsville..... Med. Coll. Va., 1865.	....	1887
*Stancell, Wm. W., Margaretsville..... Univ. Coll. Med., Va., 1906.	1906	1906
Stephenson, M. R., Seaboard..... Univ. Md., 1881.	....	1904
Valentine, Thos., Vultare.....	....	1904

ONSLOW COUNTY SOCIETY.

*President, Cyrus Thompson.....Jacksonville.
Secretary, C. W. Sutton.....Richlands.

Blount, F. H., Swansboro.....	....	1904
Cox, E. L., Jacksonville..... Univ. Md., 1889.	1889	1892
Dudley, G. J., Snead's Ferry..... Univ. Md., 1898.	....	1904
Montford, W. J., Ward's Mills..... Jeff. Med. Coll., 1857.	....	1904
*Nicholson, J. L., Richlands..... Univ. N. Y., 1875.	1880	1880
*Sutton, C. W., Richlands..... Tulane Univ., Lea, 1905.	1905	1906
Thompson, Cyrus, Jacksonville ..... Tulane Univ., La., 1878.	....	1904

ORANGE COUNTY SOCIETY.

President, I. H. Manning.....Chapel Hill.
*Secretary, C. D. Jones.....Hillsboro.

Members and Address.	*Licensed.*	*Joined State Society.*
Abernethy, E. A., Chapel Hill..... Univ. Coll. Med., Va., 1901.	1901	1905
Hester, J. R., Prospect Hill..... Univ. Tenn.	....	1894
Hughes, C. M., Cedar Grove..... Atlanta Med. Coll., 1897.	1901	1904
*Jones, C. D., Hillsboro..... Vanderbilt Univ., 1887.	1891	1901
*Manning, I. H., Chapel Hill..... Long Island Med. Coll., 1887.	1899	1901
Mangum, C. S., Chapel Hill..... Jeff. Med. Coll., 1894.	1896	1898
*Murphy, W. E., Carr..... Louis. Med. Coll., 1876.	....	1904
*MacNider, Wm. DeB., Chapel Hill..... Univ. of N. C., 1903.	1903	1903
Parris, D. C., Hillsboro ..... Atlanta Med. Coll., 1882.	1885	1887
*Whitehead, R. H., Charlottesville, Va. ..... Univ. Va., 1888.	1889	1891

PAMLICO COUNTY SOCIETY.

President, Geo. S. Attmore.....Stonewall.
Secretary H. P. Underhill.....Bayboro.

Attmore, Geo. S., Stonewall..... Wash. Univ., Md., 1870.	1870	1904
Clark, J. T., Hobocken..... Non-Graduate.	....	1905
*Daniels, O. C., Oriental..... Med. Coll. Va., 1903.	1903	1904
Dees, D. A., Bayboro..... Balto. Med. Coll., 1903.	1903	1905
Underhill, H. P., Bayboro..... Univ. Coll. Med., 1901.	1901	1904

PASQUOTANK-CAMDEN-DARE COUNTY SOCIETY.

*President, Oscar McMullan.....Elizabeth City.
Secretary, Claude B. Williams.....Elizabeth City.

Aydlette, H. F., Elizabeth City..... Univ. of Va., 1894.	1895	1906

Members and Address.	*Licensed.*	*Joined State Society.*
Davis, J. J., Buxton Univ. Md., 1891.	1891	1905
Fearing, I., Elizabeth City P. & S., Balto., 1896.	1896	1904
Fearing, W. B., Manteo Univ. Md., 1881.	....	1904
Fearing, Zenos, Elizabeth City Univ. Med. Coll. Va., 1901.	1901	1904
Ferrebee, C. G., Shiloh Med. Coll. Va., 1903.	1904	1904
Griggs, J. B., Elizabeth City Univ. Md., 1892.	1892	1904
*Griggs, W. W., Elizabeth City Med. Coll. Va., 1863.	....	1904
Lamb, R. B., Elizabeth City Univ. Md., 1904.	1904	1905
Lumsden, W. J., Elizabeth City Univ. Md., 1869.	....	1888
*McMullan, Oscar, Elizabeth City Univ. Va., 1880.	....	1889
Sawyer, C. W., Elizabeth City Univ. Md., 1886.	....	1904
Sawyer, W. W., Shiloh Univ. Md., 1903.	1903	1905
Walker, H. D., Elizabeth City Univ. Md., 1902.	1902	1902
Williams, Claude B., Elizabeth City Univ. Coll. Med., Va., 1903.	1903	1906
Wood, J. E., Elizabeth City Wash. Univ., Md., 1869.	....	1904

PENDER COUNTY SOCIETY.

President, W. H. Crowell.....Burgaw.
Secretary, R. H. Bradford.....Burgaw.

Alexander, L. L., Top Sail Sound Univ. N. Y., 1869.	....	1904
Bradford, R. H., Burgaw N. C. Med. Coll., 1904.	1904	1905
Crowell, W. H., Burgaw Univ. Md., 1895.	1895	1896
Lucas, Geo. F., Currie Univ. N. Y., 1870.	....	1904
Williams, R. J., Rocky Point Jeff. Med. Coll., 1893.	1893	1904

PERQUIMANS COUNTY SOCIETY.

President, W. M. Riddick.....Hertford.
Secretary, R. W. Smith.....Hertford.

Members and Address.	*Licensed.*	*Joined State Society.*
*McMullan, Thos. S., Hertford..... Univ. Va., 1888.	1889	1892
Riddick, T. M., Woodville..... P. & S., Balto., 1893.	1893	1904
Riddick, W. M., Hertford..... Univ. Pa., 1856.	....	1904
Smith, R. W., Hertford..... Univ. Md., 1892.	1892	1904
White, Thos. N., Belvidere..... P. & S., Balto., 1905.	....	1905
Winslow, C. C., Winfall..... Univ. Md., 1889.	....	1904

PERSON COUNTY SOCIETY.

*President, A. C. Boyles.....Mount Tirzah.
*Secretary, W. S. Bradsher.....Roxboro.

*Baynes, R. S., Gordonton..... P. & S., Balto., 1881.	1881	1904
*Boyles, A. C., Mount Tirzah.....	....	1904
*Bradsher, W. A., Roxboro..... Univ. Md., 1904.	1904	1905
Nichols, C. G., Roxboro..... 1 co. Bellevue Med. Coll., 1884.	1885	1891
*Schaub, O. P., Roxboro..... Balto. Med. Coll., 1898.	1898	1898
*Swann, J. F., Cunningham..... P. & S., Balto., 1896.	1896	1904
*Wise, J. A., Roxboro..... P. & S., Balto., 1886.	1885	1904

PITT COUNTY SOCIETY.

President, C. M. Jones.....Grimesland.
*Secretary, J. E. Nobles.....Greenville.

Bagwell, W. H., Greenville..... P. & S., Balto., 1883.	1885	1887
Basnight, T. G., Stokes..... Univ. Med., 1904.	1905	1906
Brown, Zeno, Greenville..... Bellevue Med. Coll., 1883.	1885	1885

Members and Address.	*Licensed.*	*Joined State Society.*
Cox, B. T., Winterville Univ. Md., 1888.	1888	1888
Dawson, W. W., Grifton Univ. Md., 1897.	1897	1900
Dixon, Joseph, Ayden Med. Coll. Va., 1894.	1893	1895
*Fountain, Wm., Greenville Univ. Coll. Med., Va., 1898.	1899	1899
Grimes, R. J., Bethel Univ. Pa., 1876.	1876	1904
James, F. C., Bethel Columbian Univ., D. C., 1859.	....	1904
Jones, C. M., Grimesland Univ. Md., 1892.	1892	1895
Joyner, C. C., Farmville Jeff. Med. Coll., 1899.	1899	1904
*Laughinghouse, Chas. O'H., Greenville Univ. Pa., 1893.	1893	1894
Morrill, David S., Farmville Balto. Med. Coll., 1897.	1897	1904
Morrill, Jenness, Falkland Univ. Md., 1888.	1888	1904
*Moye, E. A., Jr., Greenville Univ. Va., 1895.	1895	1897
*Nobles, J. E., Greenville Jeff. Med. Coll., 1899.	1899	1902
Ricks, L. E., Shelmurdine Med. Coll. Va., 1896.	1896	1898
*Skinner, Lewis C., Ayden Univ. Md., 1901.	1901	1902
Thigpen, G. T., Bethel Univ. Md., 1903.	1903	1904
Whitfield, W. C., Quinnerly Univ. Md., 1884.	1884	1884

RANDOLPH COUNTY SOCIETY.

*President, Samuel A. Henly.....Ashboro.
*Secretary, C. E. Hubbard.....Worthville.

Fox, D. L., Randleman Vanderbilt Univ., 1894.	1899	1906
*Fox, Thos. I., Franklinsville Vanderbilt Univ., 1894.	1899	1904
*Henly, Samuel A., Ashboro Attended Jeff. Med. Coll., 1861.	....	1888
*Hubbard, C. C., Worthville Jeff. Med. Coll., 1888.	1890	1904

Members and Address.	*Licensed.*	*Joined State Society.*
*Hunter, J. V., Ashboro Univ. Lousville, 1898.	1898	1905
*Lewis, C. H., Farmer Jeff. Med. Coll., 1878.	....	1904
*Moore, W. J., Ashboro P. & S., Balto., 1892.	1893	1901
McFadyen, Paul R., Randleman Med. Coll. Va., 1901.	1901	1904
Redding, A. H., Cedar Falls P. & S., Balto., 1887.	....	1904
*Summers, W. T., Randleman Univ. Tenn., 1893.	1894	1904

RICHMOND COUNTY SOCIETY.

*President, J. M. Ledbetter.....Rockingham.
*Secretary, W. P. Webb.....Rockingham.

*Brown, G. W., Raeford Ky. School Med., 1898.	1900	1904
*Everett, A. C., Pegues Univ. Md., 1897.	1897	1903
Fowlkes, J. I., Hamlet P. & S., Atlanta, 1903.	1903	1903
*Garrett, F. J., Rockingham Univ. Md., 1889.	1887	1904
Hunter, W. C., Rockingham P. & S., Atlanta, 1901.	1901	1904
Kinsman, H. F., Hamlet Univ. Vermont, 1894.	1897	1904
*Ledbetter, J. M., Rockingham Vanderbilt Univ., 1894.	1894	1903
*McEachern, E. C., Cardova Univ. Md., 1901.	1901	1905
*McPhail, L .D., Rockingham Univ. Md., 1900.	1900	1902
Steele, W. H., Rockingham Bellevue Med. Coll., 1874.	....	1904
*Webb, W. P., Rockingham Med. Coll. S. C., 1897.	1897	1904
Williamson, J. H., Pegues Jeff. Med. Coll., 1859.	....	1904

ROBESON COUNTY SOCIETY.

*President, R. M. Norment.....Lumberton.
Secretary, N. A. Thompson.....Lumberton.

Members and Address.	*Licensed.*	*Joined State Society.*
Brown, J. P., Ashpole Univ. Md., 1883.	....	1904
*Croom, J. D., Maxton Med. Coll. S. C., 1876.	....	1887
Croom, A. B., Maxton Univ. Md., 1905.	1905	1906
*Currie, D. S., Maxton N. C. Med. Coll., 1906.	1906	1906
Dickson, A. P., Raeford Univ. N. Y., 1878.	....	1904
Evans, Wm. E., Rowland Med. Coll. Va., 1894.	1894	1904
*Hodgin, H. H., Red Springs N. C. Med. Coll, 1906.	1906	1906
Kirkpatrick, L. R., Maxton N. C. Med. Coll., 1902.	1902	1902
*McIntyre, D. C., Lumberton N. C. Med. Coll., 1904.	1904	1905
*McKinnon, W. H., Red Springs Bellevue Med. Coll., 1870.	....	1905
*McMillan, Ben. F., Red Springs Univ. Md., 1882.	1884	1884
*McMillan, J. D., Lumberton Jeff. Med. Coll., 1876.	1876	1876
McMillan, J. L., Red Springs Univ. Md., 1881.	1881	1902
McNatt, H. W., Maxton Univ. Md., 1881.	....	1905
McPhail, W. P., Ashpole Univ. of Nashville, 1905.	1905	1906
Norment, R. M., Lumberton Univ. Md., 1893.	1893	1904
Norment, T. A., Jr., Rowland N. C. Med. Coll., 1894.	1893	1904
*Northrup, T. L., St. Pauls Univ. Md., 1897.	1897	1903
Pate, G. M., Rowland Med. Coll. S. C., 1900.	1900	1905
Pope, H. T., Lumberton N. C. Med. Coll., 1894.	1893	1902
Rowland, W. H., Kingsdale Non-graduate.	....	1904
Reedy, Howard, Rowland Med. Coll. S. C., 1884.	....	1904
*Rosier, R. G., Lumberton Univ. Md., 1899.	1899	1904

Members and Address.	*Licensed.*	*Joined State Society.*
Rosier, S. B., Lumberton, R. F. D. Med. Coll. Va., 1855.	....	1904
Stamps, Thomas, Lumber Bridge. Univ. Louisville, 1888.	1888	1888
Stephens, Wm. F., Ashpole. Tenn. Med. Coll., 1901.	1898	1904

ROCKINGHAM COUNTY SOCIETY.

*President, J. A. Williams.....Reidsville.
*Secretary, J. W. McGehee.....Reidsville.

Baird, C. A., Madison. N. C. Med. Coll., 1904.	1904	1905
Balsley, T. E., Reidsville	....	....
*Boaz, T. A., Stoneville. Coll. P. & S., Balto., 1892.	1892	1905
*Brooks, E. H., Reidsville. Balto. Med. Coll., 1894.	1895	1904
*Dicks, Jas. F., Stoneville. Univ. Coll. Med., Va., 1901.	1901	1905
*Davis, Thos. W., Maysdale. Med. Coll., S. C., 1898.	1899	1905
Ellington, Sam, Wentworth	....	1904
Johns, A. B., Spray	....	....
Martin, S. L., Leaksville. Balto. Med. Coll., 1892.	1892	1904
*Matherson, R. C., Madison. P. & S., Balto., 1891.	1891	1904
*McAnally, Chas. B., Madison. Univ. N. Y., 1887.	1887	1896
*McGehee, J. W., Reidsville. Univ. Md., 1904.	1904	1905
Ray, J. B., Leaksville	....	....
Sweeny, John, Leaksville	....	....
Smith, J. R., Stoneville	....	....
Stewart, J. T., Summerfield, R. F. D.	1898	1898
Tuttle, A. F., Spray N. C. Med. Coll., 1901.	1901	1906
Taylor, G. G., Leaksville	....	....
Tucker, F. P., Ruffin. P. & S., Balto., 1882.	....	1904
*Wharton, C. R., Ruffin. Med. Coll. Va., 1897.	1897	1904
*Williams, J. A., Reidsville. Univ. Va., 1898.	1898	1898

ROWAN COUNTY SOCIETY.

President, W. L. Crump.....Salisbury.
Secretary, E. Rose Dorsett.....Salisbury.

Members and Address.	*Licensed.*	*Joined State Society.*
*Atkins, G. J., China Grove	....	1905
*Brawley, R. V., Salisbury Univ. Coll. Med., Va., 1900.	1900	1904
*Brown, Geo. A., Mount Ulla Univ. Coll. Med., Va., 1897.	1897	1898
*Brown, J. Stevens, Salisbury N. West. Univ. of Ill., 1893.	1894	1895
*Busby, J. G., Spencer Univ. Md., 1904.	1904	1905
Caldwell, J. A., Salisbury Univ. Pa., 1854.	....	1904
*Chenault, W. F., Cleveland Univ. Md., 1888.	1888	1891
*Councill, Jeff. B., Salisbury P. & S., Balto., 1885.	1885	1904
Cowan, Robt. L., China Grove	....	....
*E. B. Clement, Salisbury Jeff. Med. Coll., 1906.	1906	1906
Crump, W. L., Salisbury Jeff. Med. Coll., 1879.	1881	1904
Dorsett, E. Rose, Salisbury Jeff. Med. Coll., 1869.	....	1904
*Flippen, J. Meigs, Salisbury P. & S., Balto., 1884.	....	1893
*Foust, I. Henry, Salisbury Vanderbilt Univ., 1899.	1898	1904
Fitzgerald, J. F., Gold Hill Jeff. Med. Coll., 1889.	1889	1906
Gaither, J. B., China Grove P. & S., Balto., 1869.	....	1904
*Goodman, A. B., Crescent N. C. Med. Coll., 1898.	1897	1904
Henderson, A. G., Woodleaf Jeff. Med. Coll., 1861.	....	1904
Heathman, J. D., Woodleaf Univ. Md., third course, 1899.	1899	1904
*Heilig, H. G., Salisbury Univ. Md., 1899.	1899	1904
*McKenzie, W. W., Salisbury Jeff. Med. Coll., 1893.	1893	1894
*Monk, H. L., Spencer Med. Coll. Va., 1897.	1899	1903

Members and Address.	*Licensed.*	*Joined State Society.*
*Peeler, J. H., Granite Quarry Univ. Coll. Med., Va., 1899.	1899	1904
*Poole, C. M., Salisbury P. & S., Balto., 1880.	1880	1880
Poole, G. M. Van, Craven (U. S. Army) Univ. Md., 1899.	1899	1899
*Ramseur, G. A., China Grove Jeff. Med. Coll., 1880.	....	1898
*Smoot, M. L., Spencer Univ. Coll. Med., Va., 1903.	1903	1904
*Summerell, E. M., Mill Bridge Univ. Pa., 1883.	1883	1883
*Sawyer, C. J., Salisbury P. & S., Balto., 1895.	1895	1897
*Stokes, J. E., Salisbury Univ. Md., 1892.	1900	1901
Trantham, H. T., Salisbury Univ. N. Y., 1875.	1878	1879
*Tankersley, J. W., Salisbury Jeff. Med. Coll., 1906.	1906	1906
*West, R. M., Salisbury Med. Coll. Va., 1900.	1900	1904
Whitehead, John, Salisbury Univ. Pa., 1880.	1880	1880
Withers, Banks, Enochsville Univ. Md., 1896.	1896	1904
Young, J. W., Spencer Univ. Md., 1898.	1898	1904

RUTHERFORD COUNTY SOCIETY.

*President, Romeo Hicks.....Henrietta.
*Secretary, E. B. Harris.....Rutherfordton.

*Andrews, R. M., Cliffdale Memp. Hosp. Coll. Med., Tenn., 1904.	1904	1905
*Bostic, W. C., Forest City N. C. Med. Coll., 1905.	1905	1906
Carpenter, F. A., Henrietta N. C. Med. Coll., 1906.	1906	1906
Chapman, G. M., Logan's Store Grant Univ., Tenn., 1904.	1904	1905
*Hamrick, T. G., Caroleen P. & S., Balto., 1895.	1895	1904
*Harris, E. B., Rutherfordton P. & S., Balto.	....	1904
Harrell, L. B., Caroleen U. S. Grant Univ., Tenn.	....	1904

Members and Address.	*Licensed.*	*Joined State Society.*
*Haynes, B. M., Cliffside N. C. Med. Coll., 1905.	1905	1906
Hicks, Romeo, Henrietta Southern Med. Coll., Ga., 1888.	....	1899
*Hicks, O., Caroleen Med. Coll. Va.	....	1904
Jonas, J. F., Thermal City Balto. Med. Coll., 1903.	1903	1903
*Lovelace, T. B., Henrietta P. & S., Balto., 1883.	....	1904
Reid, Geo. P., Forest City Univ. Coll. Med., Va., 1895.	1894	1889
Thompson, W. A., Rutherfordton P. & S., Balto.	....	1904
Thompson, J. B., Cliffdale Coll. P. & S., Balto., 1898.	1898	1904
Twitty, T. B., Rutherfordton Univ. N. Y., one year, 1868.	....	1904
Twitty, J. C., Rutherfordton Balto. Med. Coll., 1892.	1892	1906
*Wiseman, C. B., Henrietta P. & S., Balto., 1902.	1902	1902
Young, G. E., Forest City One course Univ. Pa., 1899.	1885	1904

SAMPSON COUNTY SOCIETY.

President, Jno. A. Stevens.....Clinton.
*Secretary, G. M. Cooper.....Clinton.

Cooper, F. J., Roseboro P. & S., Balto., 1884.	1885	1904
Cooper, G. M., Clinton Univ. Coll. Med., Va., 1905.	1905	1906
Holiday, R. H., Clinton 1 co. Wash. Univ., Md., 1868.	....	1904
*Holmes, F. H., Clinton Univ. Md., 1895.	1895	1896
Kerr, C. S., Kerr Univ. Md., 1869.	....	1904
Lee, A. M., Clinton Med. Coll. Va., 1862.	....	1904
Lee, R. E., Clinton Univ. Md., 1896.	1896	1900
*Matthews, J. O., Taylor's Bridge Univ. Coll. Med., Va., 1897.	1897	1902
McLean, R. H., Dunn, R. F. D. No. 6 P. & S., Balto., 1882.	....	1906

Members and Address.	*Licensed.*	*Joined State Society.*
*Sikes, G. L., Salemburg.... Univ. Coll. Med. Va., 1900.	1900	1904
Sloan, Henry, Ingold.... Med. Coll. S. C., 1881.	1885	1902
Stevens, J. A., Clinton.... Jeff. Med. Coll., 1883.	1883	1883
Taylor, W. I., Harrell's Store.... N. C. Med. Coll., 1902.	1904	1905
*Wilson, R. B., Newton Grove.... Ky. School Med., 1889.	1890	1904

SCOTLAND COUNTY SOCIETY.

*President, D. M. Prince .....Laurinburg.
Secretary, A. W. Hamer.....Laurinburg.

*Blue, K. A., Laurinburg.... Univ. Md., 1890.	1890	1892
Everington, Geo. D., Laurinburg.... N. C. Med. Coll., 1899.	1898	1898
Gibson, J. S., Gibson.... Univ. of Md., 1905.	1905	1906
Gibson, M. R., Gibson.... Univ. of Md., 1905.	1905	1906
Hamer, A. W., Laurinburg.... Med. Coll. S. C., 1858.	....	1904
*John, Peter, Laurinburg.... Univ. Md., 1897.	1897	1904
*McLean, Neil M., Gibson.... Univ. Md., 1883.	1883	1888
*Pate, W. T., Gibson.... P. & S., Balto., 1885.	1885	1885
*Prince, D. M., Laurinburg .... Med. Coll. S. C., 1871.	1879	1879
Shaw, Daniel, Fontcol.... Jeff. Med. Coll., 1853.	....	1904
Shaw, Wm. G., Fontcol.... P. & S., Balto., 1892.	1895	1904

STANLY COUNTY SOCIETY.

*President, T. A. Hathcock, Jr.....Norwood.
Secretary, J. M. Lilly.....Norwood.

Allen, Joseph A., New London.... Univ. Coll. Med. Va., 1901.	1901	1906
*Anderson, J. N., Albemarle.... Univ. Md., 1895.	1895	1904

Members and Address.	*Licensed.*	*Joined State Society.*
Campbell, J. I., Norwood Non-graduate.	1898	1904
Cox, B. B., Palmersville P. & S., Balto., 1886.	....	....
*Hartsell, F. E., Big Lick Balto. Med. Coll., 1895.	1895	1905
*Hathcock, T. A., Jr., Norwood Univ. Md., 1893.	1893	1904
*Hill, W. I., Albemarle Univ. Md., 1897.	1897	1904
*Kig, O. D., Albemarle Long Island Med. Coll., 1887.	1887	1887
Lilly, J. M., Norwood Univ. Coll. Med. Va., 1903.	1903	1904
Whitley, D. P., Millingpost Univ. Md., 1889.	1890	1898
Whitley, V. A., Albemarle Univ. Md., 1884.	1884	1904

STOKES COUNTY SOCIETY.

*President, L. H. Hill ..... Germanton.
*Secretary, Elias Fulp ..... Walnut Cove, R. F. D. No. 2.

Dicks, D. E., Madison	....	1905
Ellington, J. H., Sandy Ridge P. & S., Balto., 1872.	....	1904
*Fulp, Elias, Walnut Cove Univ. N., 1882.	....	1896
*Hill, L. H., Germanton Jeff. Med. Coll., 1861.	1877	1877
*Jones, A. G., Walnut Cove Univ. N. Y.	....	1904
Leak, J. J., Dan River Univ. Coll. Med., Va., 1901.	....	1904
McCanless, W. L., Danbury Univ. N. Y., 1892.	1893	1904
*McCanless, W. V., Danbury P. & S., Balto., 1888.	....	1904
*Moir, S. A., Francisco P. & S., Balto., 1888.	....	1904
Moore, W. B., Smith P. & S., Balto., 1893.	1893	1904
Neal, J. W., Meadows P. & S., Balto., 1889.	....	1904
Phillips, M. D., Dalton Univ. N. Y., 1881.	1881	1904

Members and Address.	*Licensed.*	*Joined State Society.*
Slate, J. S., Pinacle Non-graduate N. C. Med. Coll.	1899	1904
Slate, J. W., Mizpah Non-graduate N. C. Med. Coll.	1899	1904
Slate, W. C., King Univ. Tenn., 1903.	1903	1904
*Smith, J. T., Westfield Jeff. Med. Coll., 1899.	1899	1904
Watkins, J. T., Advance	....	1905
Withers, W. W., Walnut Cove Univ. Nashville, Tenn., 1861.	....	1904

SURRY COUNTY SOCIETY.

*President, J. B. Smith ..... Pilot Mountain.
*Secretary, E. M. Hollingsworth ..... Mt. Airy.

Allred, E. W., Mount Airy Jeff. Med. Coll., 1877.	....	1904
Ashby, T. B., Mount Airy Coll. P. & S., Balto., 1885.	1885	1896
*Flippen, S. T., Siloam N. C. Med. Coll., 1898.	1898	1898
*Flippen, R. E. L., Pilot Mountain Balto. Med. Coll., 1897.	1897	1901
Folger, W. C., Dobson Barnes' Med. Coll., Mo., 1898.	1892	1904
*Hollingsworth, Ed. M., Mount Airy P. & S., Balto., 1886.	1886	1904
Hollingsworth, J. M., Mount Airy P. & S., Balto., 1886.	1886	1904
Hollingsworth, R. E., Mount Airy Univ. Coll. Med., Va., 1898.	1899	1904
Hollingsworth, J. B., Mount Airy Jeff. Med. Coll., 1880.	....	1905
Reece, J. M., Elkin P. & S., Balto., 1886.	....	1904
Ring, J. W., Elkin P. & S., Balto., 1880.	....	1904
*Smith, J. B., Pilot Mountain P. & S., Balto., 1885.	....	1896
*Taylor, W. S., Mount Airy Jeff. Med. Coll., 1874.	....	1894
Thompson, K., Ladonia Jeff. Med. Coll., 1858.	....	1904
*Woltz, John L., Pilot Mountain Southern Medical Coll., Ga., 1897.	1902	1904
Woltz, John R., Dobson	....	1904

SWAIN COUNTY SOCIETY.

*President, D. R. Bryson .....Bryson City.
Secretary, A. M. Bennett .....Bryson City.

Members and Address.	*Licensed.*	*Joined State Society.*
Bennett, A. M., Bryson City ..... One year Louisville Med. Coll.	1885	1899
*Bryson, Dan. R., Bryson City ..... Univ. Md., 1900.	1900	1904
Cooper, J. A., Almond	....	1904
Davis, Robt. L., Bryson City ..... South. Med. Coll., Ga., 1891.	....	1893
Holt, Russell D., Cherokee ..... Med. Coll. Va., 1899.	1899	1904
Teague, J. H., Whittier ..... Non-graduate Jeff. Med. Coll., 1881.	1885	1904

TRANSYLVANIA COUNTY SOCIETY.

President, Edwin S. English .....Brevard.
*Secretary, Goode Cheatham .....Brevard.

Brooks, Whitfield, Toxaway ..... Columbian Univ., D. C., 1860.	....	1904
Cannon, J. A., Calvert ..... Southern Med. Coll., Ga., 1884.	....	1904
*Cheatham, Goode, Brevard ..... N. C. Med. Coll., 1895.	1895	1896
English, Edwin S., Brevard ..... Univ. of South, Tenn., 1901.	1902	1904
Garner, H. H., Brevard ..... Univ. Md., 1902.	1904	1905
Hunt, C. W., Brevard ..... P. & S., Balto., 1880.	1881	1904
King, M. M., Brevard ..... Eclectic Med. Coll., Ga., 1880.	....	1904
Lyda, A. E., Penrose ..... Tenn. Med. Coll.	....	1904
Lyda, W. M., Penrose ..... P. & S., Balto., 1891.	....	1904
Wallis, W. J., Brevard ..... P. & S., Balto., 1892.	1897	1904

UNION COUNTY SOCIETY.

President, G. B. Nance .....Monroe.
*Secretary, Jno. W. Neal .....Monroe.

Members and Address.	*Licensed.*	*Joined State Society.*
*Armfield, R., Marshville Med. Coll. Va., 1881.	....	1904
Ashcraft, J. E., Monroe Univ. N. Y., 1887.	1887	1888
*Blair, J. M., Monroe Louisville Med. Coll., 1887.	....	1898
*Boger, Daniel T., Unionville N. C. Med. Coll., 1906.	1906	1906
*Dees, W. A., Marshville Univ. Ga., 1891.	1893	1904
*Ewbanks, J. B., Monroe, R. F. D. Vanderbilt Univ., 1887.	....	1904
Hunter, J. V., Waxhaw Univ. Louisville, Ky., 1898.	1898	1904
*Houston, H. C., Waxhaw Univ. Nashville, 1899.	1899	1903
*McClain, W. R., Waxhaw Univ. Md., 1897.	1898	1906
*Long, Van McK., Unionville N. C. Med. Coll., 1906.	1906	1906
*Nance, Geo. B., Monroe Jeff. Med. Coll., 1885.	1885	1904
*Neal, Jno. W., Monroe Univ. N. Y., 1884.	1887	1904
*Perkins, D. R., Marshville Balto. Med. Coll., 1903.	1906	1906
*Price, W. H., Matthews, R. F. D.	....	1904
Roberson, R. M., Waxhaw Univ. Coll. Med., Va., 1899.	1899	1905
*Stevens, S. A., Monroe Univ. Md., 1900.	1898	1904
*Stewart, H. D., Monroe Univ. Md., 1898.	1898	1904
*Whitley, A. D. N., Unionville Non-graduate Univ. Md.	1897	1904

VANCE COUNTY SOCIETY.

*President, F. R. Harris ..... Henderson.
*Secretary, H. H. Bass ..... Henderson.

Alston, B. P., Epsom Univ. Md., 1868.		1868
Bass, H. H., Henderson Univ. Coll. Med., Va., 1899.	1899	1900
Coggeshall, G. A., Henderson Bellevue Med. Coll., 1879.	1894	1897

Members and Address.	*Licensed.*	*Joined State Society.*
Ferebee, C. G., Kittrell Univ. Md., 1903.	1904	1904
Gill, R. J., Henderson Univ. Pa., 1867.	....	1883
*Harris, F. R., Henderson Univ. Va., 1881.	1883	1883
MacAlister, William, Middleburg P. & S., Balto., 1890.	1890	1904
*Pendleton, A. S., Henderson Univ. Pa., 1895.	1898	1899
*Tucker, Jno. H., Henderson Univ. Va., 1899.	1901	1904

WARREN COUNTY SOCIETY.

*President, P. J. Macon ..... Warrenton.
*Secretary, B. Ray Browning ..... Littleton.

Alston, Willis, Littleton Univ. Md., 1869.	1869	1870
Alston, Willis, Jr., Littleton Univ. Md., 1903.	1903	1903
*Browning, B. Ray, Littleton Univ. Md., 1891.	1891	1899
*Macon, P. J., Warrenton Univ. Md., 1883.	1883	1901
Perry, M. P., Macon P. & S., Balto., 1884.	1884	1884
Picot, L. J., Littleton Jeff. Med. Coll., 1873.	1875	1875
*Peete, Chas. H., Warrenton Univ. Va., 1906.	1906	1906

WAKE COUNTY SOCIETY.

President, L. P. Sorrell ..... Flint.
Secretary, W. C. Horton ..... Raleigh.

Abernethy, C. O., Raleigh Univ. N. C., 1906.	1906	1906
Banks, T. L., Raleigh, R. F. D. Univ. Pa., 1856.	....	1904
Battle, K. P., Jr., Raleigh Univ. Va., 1881; Bellevue, 1882.	1882	1882
Bell, G. M., Wakefield P. & S., Balto., 1880.	....	1893
Blalock, N. M., McCullers P. & S., Balto., 1890.	1890	1904

Members and Address.	*Licensed.*	*Joined State Society.*
*Boone, W. H., Morrisville N. C. Med. Coll., 1902.	1902	1904
Buffalo, J. S., Garner Balto. Med. Coll., 1900.	1900	1904
Burt, B. W., Enno P. & S., Balto., 1886.	1886	....
*Caveness, Z. M., Raleigh, R. F. D. Univ. N. C., 1903.	1903	1903
*Cooke, Fred. K., Wake Forest Tulane Univ., La., 1901.	1902	1902
Cotten, A. T., Raleigh P. & S., Balto., 1879.	....	1885
Dixon-Carroll, E. Delia, Raleigh Woman's Med. Coll., N. Y., 1895.	1900	1900
Dowd, C. F., Willow Springs Univ. Pa., 1867.	....	1904
Ferebee, E. B., Raleigh P. & S., Balto., 1885.	1885	1903
Fowler, M. L., Rolesville P. & S., Balto., 1881.	....	1904
*Gaines, Lewis M., Wake Forest Johns Hopkins, 1903.	1906	1906
Goodwin, A. W., Raleigh Bellevue Med. Coll., 1887.	1887	1887
Harris, H. H., Wake Forest Univ. Pa., 1860.	1860	1886
Hayden, Catherine P., Raleigh Univ. Colorado, 1894.	1902	1904
Haywood, F. J., Raleigh Bellevue Med. Coll., 1868.	....	1898
Haywood, Hubert, Raleigh Bellevue Med. Coll., 1879.	....	1904
Hines, P. E., Raleigh Univ. Pa., 1852.	....	1853
*Hocutt, Battle A., Wakefield Univ. N. C., 1906.	1906	1906
Holding, S. P., Wake Forest Bellevue Med. Coll., 1897.	1897	1904
Horton, W. C., Raleigh P. & S., Balto., 1897.	1896	1904
Jenkins, C. L., Raleigh Univ. N. Y., 1890.	1890	1892
Johnson, R. W., Apex Univ. Tenn., 1900.	1901	1904
Jones, A. ., Raleigh Bellevue Med. Coll., 1890.	1881	1881
*Jordan, T. M., Raleigh P. & S., Balto., 1881.	1881	1881

Members and Address.	*Licensed.*	*Joined State Society.*
*Jordan, Wm. S., Raleigh Univ. N. C., 1906.	1906	1906
Judd, J. M., Fuquay Springs Balto. Med. Coll., 1897.	1898	1901
*Knox, A. W., Raleigh Bellevue Med. Coll., 1874.	1878	1880
*Lewis, R. H., Raleigh Univ. Md., 1871.	1877	1877
Mashburn, B. D., Raleigh, R. F. D. Non-Grad. P. & S., Balto., 1875-'6.	....	1904
Mashburn, H. H., Neuse, R. F. D. P. & S., Balto., 1876.	....	1904
McCullers, J. J. L., McCullers P. & S., Balto., 1886.	1886	1904
McGeachey, R. S., Raleigh Bellevue Med. Coll., 1894.	1894	1895
McGee, J. W., Raleigh Univ. Pa., 1860.	1860	1865
McGee, J. W., Jr., Raleigh Bellevue Med. Coll., 1888.	1888	1888
McKee, James, Raleigh Bellevue Med. Coll., 1869.	1870	1870
*Moncure, Wm., Raleigh Univ. Pa., 1902.	1905	1906
Penny, J. A. J., Vanteen Univ. N. Y., 1861.	....	1904
Powers, J. B., Wake Forest Long Island Med. Coll., 1878.	1885	1904
*Ray, O. L., Bangor Univ. Coll. Med., Va., 1899.	1899	1904
*Rankin, W. S., Wake Forest Univ. Md., 1901.	1901	1901
Rogers, Jas. R., Raleigh P. & S., Balto., 1886.	1886	1904
*Royster, H. A., Raleigh Univ. Pa., 1894.	1894	1895
Royster, W. I., Raleigh Bellevue Med. Coll., 1869.	1869	1871
Sorrell, L. P., Flint Med. Coll. Va., 1875.	....	1904
Stevens, Ralph S., Raleigh Univ. N. C., 1905.	1905	1906
*Templeton, J. M., Cary Balto. Med. Coll., 1882.	1882	1904
Thompson, S. W., Falls Med. Coll. Va., 1875.	....	1904
*Tucker, H. McKee, Raleigh Univ. Md., 1899.	1899	1899

Members and Address.	*Licensed.*	*Joined State Society.*
Utley, B. S., Holly Springs P. & S., Balto., 1878.	....	1886
Utley, H. G., Apex Univ. Md., 1894.	1901	1901
Utley, H. H., Cardenas	....	....

WASHINGTON COUNTY SOCIETY.

President, W. H. Hardison ..... Creswell.
Secretary, J. L. Hassell ..... Creswell.

Cohen, B. W., Columbia, Tyrrell County Med. Coll. Va., 1884.	....	1906
Early, J. W., Plymouth Univ. Pa., 1893.	1901	1904
Hassell, J. L., Creswell P. & S., Balto., 1886.	....	1904
Hassell, Stark, Plymouth P. & S., Balto., 1886.	1886	1906
Halsey, B. F., Roper Vanderbilt Univ., 1893.	1895	1900
Hardison, W. H., Creswell Wash. Univ., Md., 1870.	....	1904
Speight, J. W., Roper Ky. School Med., 1885.	1885	1904
*Ward, W. H., Plymouth Univ. Md., 1881.	1886	1900
Spruill, J. L., Columbia, Tyrrell County Univ. Md., 1895.	1895	1906

WATAUGA-MITCHELL COUNTY SOCIETY.

President, J. W. Jones ..... Boone.
Secretary, McD. Little ..... Horton.

*Hodges, James M., Banner's Elk Balto. Med. Coll., 1904.	1906	1906
Jones, J. Walter, Boone U. S. Grant Univ., 1900.	1903	1904
Little, McD., Horton	....	1904
*Farthing, Logan E., Boone Univ. N. C., 1906.	1906	1906

WAYNE COUNTY SOCIETY.

President, J. D. Roberts ..... Mount Olive.
Secretary, W. K. Lane ..... Goldsboro.

Members and Address.	*Licensed.*	*Joined State Society.*
Benton, Geo. R., Eureka Med. Coll. Va., 1901.	1901	1904
Cobb, W. H. H., Goldsboro Univ. Pa., 1861.	1878	1878
*Cobb, W. H., Jr., Goldsboro Jeff. Med. Coll., 1889.	1889	1890
Crawford, W. B., Walter Bellevue Med. Coll., 1886.	1886	1904
Exum, W. P., Jr., Goldsboro, R. F. D. Med. Coll. Va., 1901.	1902	1904
Faison, W. W., Goldsboro Jeff. Med. Coll., 1878.	1883	1904
Ginn, Theo. L., Goldsboro Med. Coll. Va., 1901.	1901	1904
*Hayes, L. O., Fremont Univ. Coll. Med., Va.	1897	1904
Jones, W. J., Goldsboro Univ. N. Y., 1858.	....	1860
Kennedy, J. B., Grantham Univ. Nashville, 1870.	....	1904
*Kornegay, L. W., Mount Olive N. C. Med. Coll., 1906.	1906	1906
Lane, W. K., Goldsboro Jeff. Med. Coll., 1902.	1902	1902
Miller, R. B., Goldsboro Med. Coll. Va., 1898.	1900	1905
Powell, W. E., Goldsboro P. & S., Balto., 1882.	1885	1904
Roberts, J. D., Mount Olive Bellevue Med. Coll., 1875.	1877	1904
*Robinson, M. E., Goldsboro Wash. Univ., Md., 1870.	....	1886
Smith, R. A., Goldsboro Vanderbilt Univ., 1879.	1882	1882
Spicer, J. D., Goldsboro Jeff. Med. Coll., 1859.	....	1904
Spicer, John, Goldsboro Bellevue Med. Coll., 1889.	1890	1904
Spicer, William, Goldsboro Bellevue Med. Coll., 1898.	1897	1904
*Steele, W. C., Mount Olive Univ. Md., 1894.	1891	1894
Sutton, W. G., Seven Springs Jeff. Med. Coll., 1889.	1889	1896
Turlington, W. T., Fremont P. & S., Balto., 1894.	1894	1895

WILKES COUNTY SOCIETY.

*President, C. W. Mosely ..... North Wilkesboro.
*Secretary, C. G. Bryant ..... Roaring River.

Members and Address.	*Licensed.*	*Joined State Society.*
*Bryant, C. G., Roaring River ..... Louisv. Med. Coll., 1894.	....	1904
Billings, Arthur E., North Wilkesboro ..... N. C. Medd. Coll., 1904.	1904	1906
Carlton, R. L., North Wilkesboro ..... Univ. Md., 1906.	1906	1906
Eller, A. J., Ready Branch ..... P. & S., Balto., 1893.	1895	1904
Gilreath, F. H., North Wilkesboro ..... Univ. Nashville.	1898	1898
Hamby, C. L., Dehart	....	1904
*Horton, W. P., North Wilkesboro ..... Balto. Med. Coll., 1892.	1896	1904
*Moseley, Chas. W., North Wilkesboro..... Balto. Med. Coll., 1893.	1893	1896
*Myers, J. Q., North Wilkesboro ..... N. C. Med. Coll., 1904.	1904	1904
Somers, L. P., Osbornville	....	1904
Thompson, R. L., Trap Hill ..... Coll. P. & S., Balto., 1892.	1891	1906
Turner, J. M., Wilkesboro ..... Univ. Louisville, Ky., 1881.	....	1904
White, J. W., Wilkesboro ..... Jeff. Med. Coll., 1889.	1889	1890

WILSON COUNTY SOCIETY.

President, Isaac W. Lamm..... Lucama.
Secretary, W. H. Anderson..... Wilson.

*Anderson, Albert, Wilson ..... Univ. Va., 1888.	1889	1889
*Anderson, W. S., Wilson ..... Washington Univ., Balto.	1869	1899
*Anderson, W. H., Wilson..... Univ. Va., 1902.	1904	1905
Barnes, B. F., Saratoga..... Univ. Md., 1902.	1902	1902
Crocker, Wm. D., Lucama..... Louisville Med. Coll., 1887.	1896	1904
Crocker, S. H., Statonsburg..... Ky. School Med., 1893.	1894	1899

Members and Address.	*Licensed.*	*Joined State Society.*
*Dickenson, E. T., Wilson Med. Coll. Va., 1895.	1895	1900
Freeman, H. F., Taylors Coll. P. & S., Balto., 1878.	1879	1905
*Herring, B. S., Wilson Univ. Mich., 1900.	1901	1901
*Lamm, Isaac W., Lucama Univ. Coll., Med., Va., 1899.	1899	1900
Moore, C. E., Wilson Bellevue Med. Coll., 1875.	1875	1875
Moore, E. G., Elm City Univ. Med., 1883.	1883	1890
Williams, A. F., Wilson	....	1905

YADKIN COUNTY SOCIETY.

*President, W. G. Leak.....East Bend.
Secretary, M. L. Matthews.....East Bend.

Blackwell, T. L., Boonville Louis. Med. Coll., 1874.	....	1905
Clingman, J. J., Huntsville Attendcd P. & S., Balto., 1876.	....	1904
Fassett, B. W., Cross Roads Balto. Med. Coll., 1898.	1899	1904
Harding, T. R., Yadkinville Coll. P. & S., Balto., 1885.	1885	1906
*Holcombe, C. M., Boonville P. & S., Balto., 1869.	....	1905
*Hutchins, E. M., Boonville N. C. Med. Coll.	1896	1904
*Leak, W. G., East Bend N. C. Med. Coll., 1900.	1899	1904
*Matthews, M. L., East Bend Univ. N. C., 1903.	1903	1904
*Matthews, J. M., Mount Pleasant Univ. Tenn., 1890.	....	1899
*Royall, M. A., Yadkinville P. & S., Balto., 1890.	....	1904
Russell, S. L., Yadkinville Univ. Tenn., 1890.	....	1904
*Shore, Thad. W., Boonville Univ. Coll. Med., Va., 1898.	1899	1904

YANCEY COUNTY SOCIETY.

President, J. L. Ray ..... Burnsville.
Secretary, J. B. Gibbs ..... Burnsville.

Members and Address.	*Licensed.*	*Joined State Society.*
Austin, W. M., Burnsville	....	1904
Non-Graduate.		
Edwards, C. P., Bald Mountain	1903	1903
Tenn. Med. Coll., 1900.		
Gibbs, J. B., Burnsville	1904	1905
N. C. Med. Coll., 1904.		
Hall, J. M., Newdale	....	1905
Non-Graduate.		
Ray, J. L., Burnsville	1887	1890
P. & S., Balto., 1887.		

Honorary Fellows, Medical Society of the State of North Carolina.

Name.	Address.	Name.	Address.
Peter E. Hines	Raleigh.	*George G. Thomas	Wilmington.
*H. T. Bahnson	Salem,	Francis Duffy	New Bern.
W. W. Lane	Wilmington.	*P. L. Murphy	Morganton.
W. J. Love	Wilmington.	J. F. Shaffner	Salem.
James McKee	Raleigh.	B. P. Alston	Henderson.
Willis Alston	Littleton.	W. J. Jones	Goldsboro.
W. J. H. Bellamy	Wilmington.	F. J. Haywood	Raleigh.
W. I. Royster	Raleigh.	P. A. Barrier	Mount Pleasant.

Honorary Members, Medical Society of the State of North Carolina.

Name.	Address.	Name.	Address.
L. McL. Tiffany	Baltimore, Md.	W. T. Howard	Baltimore, Md.
W. W-Keen	Philadelphia, Pa.	*W. L. Robinson	Danville, Va.
J. Allison Hodges	Richmond, Va.	J. N. McCormack	Bowling Green, Ky.
*R. L. Payne	Norfolk, Va.	*J. C. Walton	Danville, Va.

May, 1906. Total membership Medical Society of the State of North Carolina including eight honorary members, 1,229. Of the 97 counties of the State the physicians of 92 counties are organized in county societies in affiliation with and component branches of the State Medical Society. At this date only the following five remain unorganized: Alleghany, Chowan, Hyde, Jones and Tyrrell

Four hundred and five members registered at 1906 session. This number does not include applicants for license, visitors, solicitors or other than enrolled members

*Registered as present at Charlotte meeting, 1906.

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